GOVERNMENT OF THE DISTRICT OF COLUMBIA
WASHINGTON, DC

Municipal Separate Storm Sewer System
NPDES Permit No. DC0000221

2002 ANNUAL REPORT

April 19, 2002

VOLUME I

Anthony A. Williams
Mayor

Submitted by:

DC Department of Health
51 N Street, NE
Washington, DC 20002

DC Department of Public Works
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DC Water and Sewer Authority
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LIST OF ACRONYMS AND ABBREVIATIONS

ARBC	Anacostia River Business Coalition
AWRC	Anacostia Watershed Restoration Committee
BCAC	Building Code Advisory Committee
BMP	Best Management Practice
BMPs	Best Management Practices
CERCLA Act	Comprehensive Environmental Response, Compensation, and Liability
CFR	Code of Federal Regulations
CSS	Combined Sewer System
District	D.C. WASA
DCMR	District of Columbia Municipal Regulations
DCRA	District of Columbia Regulatory Authority
DDOT	Department of Public Works Division of Transportation
DMS	D.C. Water and Sewer Authority Department of Maintenance Services
DOH	Department of Health
DPW	Department of Public Works
DSS	D.C. Water and Sewer Authority Department of Sewer Services
EBPI	Environmental Business Performance Indicator
EISF	Environmental Impact Screening Form

EPA	U.S. Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FY	Fiscal Year
GSA	U.S. General Services Administration
ICPRB	Interstate Commission on the Potomac River Basin

LIST OF ACRONYMS AND ABBREVIATIONS (continued)

IPM	Integrated Pest Management
LID	Low Impact Development
LQG	Large Quantity Generator
LTCP	Long Term Control Plan
MOU	Memorandum of Understanding
MS4	Municipal Separate Storm Sewer System
MSDS	Material Safety Data Sheet
MWCOG	Metropolitan Washington Council of Governments
NDPES	National Pollutant Discharge Elimination System
NPS	Nonpoint Source
NRCS	Natural Resources Conservation Services
NRDC	Natural Resources Defense Council
OECEJ	Office of Enforcement, Compliance, and Environmental Justice

Permit	National Pollutant Discharge Elimination System Permit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act
SQG	Small Quantity Generator
SWMP	Storm Water Management Plan
TMDL	Total Maximum Daily Load
TSDF	Treatment, Storage, and Disposal Facility
USDA	U.S. Department of Agriculture
VMS	DDOT subcontractor no information on what the VMS stands for

LIST OF ACRONYMS AND ABBREVIATIONS (continued)

WASA	D.C. WASA
WMATA	Washington Metropolitan Area Transit Authority
WPD	Department of Health Watershed Protection Division
WQD	Department of Health Water Quality Division

DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY
Washington, D.C.

Municipal Separate Storm Sewer System
NPDES Permit No. DC0000221
2002 Annual Report

SUMMARY AND FINDINGS

S.1 GENERAL

The Government of the District of Columbia (Permittee) submits this Annual Report in compliance with its National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Water System Permit No. DC0000221. A copy of the NPDES Permit is included in Appendix 1-A. This Annual Report is submitted together with the Implementation Plan and Discharge Monitoring Report (each under separate cover) in compliance with the reporting requirements as defined in Parts II, III.B, and IV of the Permit. As defined in the April 2001 Annual Review, this Annual Report contains the results and discussion required of the annual review together with the five additional components required for annual reporting in Part III.D of the Permit.

S.2 BACKGROUND

The U.S. Environmental Protection Agency (EPA) granted a Municipal Separate Storm Sewer System (MS4) NPDES Permit (Permit) to the District of Columbia (Permittee) on April 19, 2000. The Permit allows discharge from the MS4 system to the Potomac and Anacostia Rivers and tributaries in accordance with the conditions of the Permit. The Permit runs through April 19, 2003 after which it must be reissued based on a new application by the Permittee. On June 12, 2001 DC Law #13-311 "Storm Water Permit Compliance Amendment Act of 2000" (Act) was made final by the District of Columbia to amend the powers of the Water and Sewer Authority (WASA) to engage in certain MS4 permit compliance activities. The Act created a Storm Water Administration within WASA and established WASA as its lead agency to coordinate actions among other District agencies in connection with permit compliance activities.

The Act also established a Storm Water Permit Compliance Enterprise Fund (the Fund) to fund the Storm Water Administration's MS4 Permit implementation activities. Monies from the Fund are to be available to the participating agencies for costs incurred because of MS4 Permit mandated activities.

WASA executed a Memorandum of Understanding (MOU) on December 11, 2000 with the Permittee, the Chief Financial Officer of the District of Columbia, the Department of Health (DOH) and the Department of Public Works (DPW). The MOU assigns responsibilities among the foregoing parties for compliance with the Permit.

S.3 ANNUAL REPORT SUMMARY OF FINDINGS

This Annual Report finds that significant achievements have been made during the past year addressing the required provisions of the Permit. Individual components of specific programs stipulated in the Permit are either in place or under various stages of development. These components will form the basis for the development of the updated Storm Water Management Plan (SWMP) to be submitted in October 2002 to the EPA.

The following subsections summarize the activities over the past year to reduce pollutant loading from MS4 outfalls, and progress in the development of programs, systems, and the legal framework to track progress, manage activities, and integrate storm water management responsibility into agencies of the District government, private industry, and citizen activities within the District of Columbia.

S.3.1 Source Identification

The existing MS4 infrastructure mapping and outfall location data have been combined to develop a database. The mapping, together with the evaluation of changes as defined in the Permit, substantively comply with the Permit requirements.

S.3.2 MS4 Retrofits

The discharge monitoring program, MS4 infrastructure mapping and storm water model development are necessary components of the MS4 evaluation to be conducted. Significant progress has been made in system mapping and the collection of discharge water quality data.

S.3.3 Management Plan for Commercial, Residential, and Federal and District Government Areas

The specific requirement to develop and implement a program to control storm water discharges from Federal and District-government areas is progressing. DOH has signed agreements with DPW and the General Services Agency (GSA) requiring federal contractors working on buildings or highway improvements to meet the requirements of the District's Erosion and Sediment Control Regulations.

S.3.4 Management Plan for Industrial Facilities

The establishment of a comprehensive database of industrial facilities in the District, and the initiation of the wet weather screening program are primary components of this program. The implementation of the management plan for industrial facilities will control and reduce storm water pollution from industrial facilities in accordance with the requirements of the Clean Water Act.

S.3.5 Management Plan for Construction Sites

DOH has a strong inspection and enforcement program for commercial and residential areas and is working diligently to strengthen its erosion control program for new construction. DOH has increased its environmental inspection and enforcement activities on federal and District of Columbia government projects, including road construction and rehabilitation projects. In an effort to further strengthen the erosion control program for new construction, the existing standards and specifications are scheduled to be revised and updated and will incorporate new and innovative BMPs for erosion and sediment control at construction sites. These individual components will be formalized into a management program as part of the revised SWMP to be submitted in October 2002.

S.3.6 Flood Control Projects

The feasibility of retrofitting existing flood control devices to provide additional pollutant removal from storm water has not been evaluated. The U.S. Army Corps of Engineers continues to maintain the existing flood control infrastructure to ensure the maximum flood control capabilities from the existing system. The 2002 Implementation Plan addresses the assessment of flood control measures necessary to meet the requirements of the Clean Water Act to be submitted in the Upgraded SWMP in October 2002.

S.3.7 Control of Pollution from Municipal Landfills and Other Municipal Waste Facilities

DPW is currently utilizing many of the components of a program to monitor and reduce pollutants in storm water discharges from municipal waste facilities as it refurbishes the two existing transfer stations. There are no active landfills within the boundaries of the District. This Implementation Plan outlines the schedule for formalizing the existing activities and components into a municipal landfill and waste facilities plan to be implemented by April 2003.

S.3.8 Control of Pollutants from Hazardous Waste Sites

The two primary components of developing the hazardous waste plan are: identification and mapping of facilities, and monitoring of storm water discharge to identify facilities that are contributing a substantial pollutant loading to the MS4. Both of these activities are in progress. The Implementation Plan outlines the schedule for formalizing the existing activities and additional components into a comprehensive hazardous waste plan to be implemented by April 2003.

S.3.9 Pesticides, Herbicides and Fertilizer Application

Control of pesticide, herbicide, and fertilizer applications is integrated into the public education program, and the discharge monitoring program. No formal plan for the control of pesticide, herbicide, and fertilizer has been developed. The Implementation Plan details the schedule for development of a plan and procedures to control pesticide, herbicide, and fertilizer runoff, in accordance with the requirements of the Clean Water Act.

S.3.10 Deicing Activities

The lack of snowfall in the 2001-2002 snow season delayed the initiation of the deicing study. The Implementation Plan outlines the revised schedule for implementing the deicing study and reporting the findings.

S.3.11 Snow Removal

Dumping of snow in areas adjacent to water bodies, wetlands, or drinking water sources is not part of the District's snow management plan, and will be avoided except as

necessitated by extreme emergencies. At this time no alternate snow removal plan is envisioned. The existing snow removal plan will be reviewed and updated as necessary as part of the upgraded SWMP to be submitted for approval in October 2002.

S.3.12 Management Plan to Detect and Remove Illicit Discharges

DOH and WASA have initiated an illicit discharge detection program, issued notices of violation, and are monitoring corrective actions by violators. Illicit connections not corrected are referred to the Plumbing Inspection Branch for enforcement action. Illicit connection detection and enforcement procedures have been developed in conjunction with the dry weather screening, inspection of BMPs, and public education programs. These procedures will be finalized and become part of the upgraded SWMP to be submitted in October 2002. Removal of illicit connections reduces pollutant loading to receiving waters in accordance with the requirements of the Clean Water Act.

S.3.13 Enforcement Plan

A written enforcement strategy for stormwater violations on construction sites was prepared and submitted in the 2001 Annual Review. This strategy is utilized by DOH ~~DWP~~ staff during inspection of construction sites and subsequent enforcement actions.

S.3.14 Public Education

Public education activities have been integrated into existing and newly developed storm water management programs and expanded into new areas such as the WASA public web page. Public education efforts in the past year have included pamphlet distribution on pet waste, household hazardous waste, oil and grease in Hickey Run, and pesticides and herbicides. A video demonstrating proper maintenance of the sand filter water quality structure has also been developed and used in construction operator training.

S.3.15 Monitoring of Storm Water Outfalls

The Discharge Monitoring Report submitted together with this Annual Report under separate cover includes data and analysis of the storm event discharge monitoring program, the dry weather monitoring program, and the wet weather screening program.

S.3.16 Hickey Run Total Maximum Daily Load

The District has implemented a water quality monitoring program on Hickey Run, and is preparing a management plan for the Hickey Run sewershed to reduce pollutant loading from the MS4. As part of the overall management plan, the District is evaluating potential BMPs to reduce the amount of oil and grease discharged into Hickey Run.

DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY
Washington, D.C.

Municipal Separate Storm Sewer System
NPDES Permit No. DC0000221
2002 Annual Report

1.0 INTRODUCTION AND METHODOLOGY

1.1 GENERAL

The Government of the District of Columbia (Permittee) submits this Annual Report in compliance with its National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Water System Permit No. DC0000221. A copy of the NPDES Permit is included in Appendix 1-A. This Annual Report is submitted together with the Implementation Plan and Discharge Monitoring Report (each under separate cover) in compliance with the reporting requirements as defined in Parts II, III.B, and IV of the Permit. As defined in the April 2001 Annual Review, this Annual Report contains the results and discussion required of the annual review together with the five additional components required for annual reporting in Part III.D of the Permit.

1.2 BACKGROUND

The Environmental Protection Agency (EPA) granted a Municipal Separate Storm Sewer System (MS4) NPDES Permit (Permit) to the District of Columbia (Permittee) on April 19, 2000. The Permit allows discharge from the MS4 system to the Potomac and Anacostia Rivers and tributaries in accordance with the conditions of the Permit. The Permit runs through April 19, 2003 after which it must be reissued based on a new application by the Permittee.

1.2.1 Storm Water Act

On June 12, 2001 DC Law #13-311 “Storm Water Permit Compliance Amendment Act of 2000” (Act) was made final by the District of Columbia to amend the powers of the Water and Sewer Authority to engage in certain MS4 permit compliance activities. The Act created a Storm Water Administration within WASA and established WASA as its

lead agency to coordinate actions among other District agencies in connection with permit compliance activities. The General manager of WASA is empowered to designate a person to head this new Administration. The Act also established a Storm Water Permit Compliance Enterprise Fund (the Fund) to fund the Storm Water Administration's MS4 Permit implementation activities. Monies from the Fund are to be available to the participating agencies for costs incurred because of MS4 Permit mandated activities, including administration, operations and capital projects. To capitalize the Fund the Act authorized WASA to collect a flat storm water fee from all retail customers within the District. WASA began charging the storm water fee with the billing cycle that started July 1, 2001.

The Act requires the Department of Health (DOH), Department of Public Works (DPW), and WASA to transmit a report every six months following the effective date of the Act to the Mayor and the Council of the District of Columbia. This report describes the activities undertaken in the previous six months and outlines activities planned for the following six months. The Act indicates that the reports include descriptions of storm water related activities, including: compliance with MS4 Permit requirements; administrative, planning and regulatory actions; operation, maintenance, and capital improvements of storm water facilities; expenditures from the Fund, and expenditures on related storm water activities from annual appropriations, federal grants, and the Water and Sewer Enterprise Fund. A copy of the First Semi-Annual Report issued in December 2001 is provided in Appendix 1-B.

1.2.2 Memorandum of Understanding

WASA executed a Memorandum of Understanding (MOU) on December 11, 2000 with the Permittee, the Chief Financial Officer of the District of Columbia, the Department of Health (DOH) and the Department of Public Works (DPW). A copy of the MOU is provided in Appendix 1-C. The MOU assigns responsibilities among the foregoing parties for compliance with the Permit. The MOU also mandates preparation of an Agency Compliance Plan each year. This plan is to set forth each agency's proposed budget plan dedicated for MS4 permit compliance activities and a statement of its sufficiency. The Storm Water Administrator, the person designated by the General Manager to head the new Storm Water Administration, is responsible under the MOU to review each agency's plan and determine whether it adequately funds MS4 permit compliance activities.. In accordance with the MOU, the Storm Water Administrator

shall notify the agency, the Mayor and City Council of funding deficiencies found in any agency plan and necessary correction actions. The first of these plans, entitled "Draft FY 2002 Agency Compliance Plan" was issued November 15, 2001. A copy of the Agency Compliance Plan is provided in Appendix 1-D.

1.2.3 Storm Water Permit Compliance Enterprise Fund

The Storm Water Permit Compliance Amendment Act of 2000 (DC Law #13-311) established the Storm Water Permit Compliance Enterprise Fund to finance the Storm Water Administration's MS4 Permit implementation activities. To capitalize the Fund the Act authorized WASA to collect $4.00 per year as a storm water fee from single family residential water and sewer customers and a fee of 2.1 % of the charge for water and sewer services to other customers.

WASA began charging the storm water fee with the billing cycle that started July 1, 2001. Annual income is projected to be approximately $2.5 million per year, increasing to $3.1 million per year beginning in FY 2005 when the federal government facilities begin paying the storm water fee. Income from the Fund is to be available to any District agency for costs incurred to comply with the terms of the Permit, including administration, operations and capital projects. WASA has established a system to approve and reimburse eligible expenditures from the fund.

1.2.4 2001 Annual Review

The Permit requires the Permittee to submit the first Annual Review by April 19, 2001. The 2001 Annual Review outlined the current status of activities outlined in the Permit, and activities scheduled for the next year. The 2001 Annual Review was accepted by the EPA on June 5, 2001 Appendix 1-E.

1.2.5 Permit Administration

As the lead agency designated by the Storm Water Act, WASA is administrating the MS4 permit. In December 201, WASA completed procurement of a MS4 Permit Administration Consulting contract. EA Engineering, Science, and Technology, Inc. will provide engineering consulting and administrative support for the MS4 permit activities until September 2004.

1.3 COST BENEFIT ANALYSIS, BUDGET FOR THE FOLLOWING YEAR, AND A SUMMARY OF COMMITMENTS FOR THE FOLLOWING YEAR

A cost benefit analysis of current and planned M4 permit activities is included in the 2002 Implementation Plan submitted together with this Annual Report under separate cover. The discussion includes an analysis of current activities, and defines related future activities and programs that will be subjected to a more detailed cost benefit analysis as part of the feasibility evaluation and/or detailed design.

Implementation of the budgeted activities outlined in the 2002 Implementation Plan will substantively fulfill the requirements of the Permit. The plan will continue current activities to manage storm water pollution and encourage improved storm water management techniques, while providing the organizational and legal framework, together with the technical evaluation and specific data necessary to ensure progress and track improvement in storm water quality discharged from the MS4.

1.4 METHODOLOGY TO ASSESS THE EFFECTS OF THE STORM WATER MANAGEMENT PLAN IN REDUCING POLLUTION AND ACHIEVING THE REQUIREMENTS OF THE CLEAN WATER ACT

Assessing the effects of the storm water management plan (SWMP) in reducing pollution and achieving the requirements of the Clean Water Act involves a variety of measurement metrics and processes. Certain programs such as removing illicit connections, improved erosion and sediment controls for construction sites, and refurbishment of municipal waste transfer and salt storage areas will result in immediate and predictable reductions to pollutant loading to storm water runoff in a known sewershed. Such measures require monitoring data, and runoff modeling to quantify results.

Other programs such as public education and contractor and equipment operator training have effects that are dispersed in time and location making it difficult to quantify results from a single input to improvement in storm water quality in a specific outfall or outfalls. Such measurements are usually made by tracking number of persons trained or through testing of comprehension.

Still other programs require significant time in planning and implementation, and thus effects of today's work may not be measurable within the term of the current permit, or even the following one. Long-term traffic and transit planning, and programs implemented by consumers like rain leader disconnection or other small-scale residential Best Management Practice (BMP) installation are examples of this. Such measures, while quantifiable, require extended time intervals of measurement, or estimates of future implementation rates and efficiencies.

Methodologies for assessing the effects of the SWMP in reducing pollution and achieving the requirements of the Clean Water Act will continue to be developed and refined to provide a consistent measure of progress and success in the MS4 program.

1.5 ORGANIZATION OF THE ANNUAL REPORT

The report's outline follows the organization of the Permit, and includes the following sections:

- Introduction
- 2.0 Source Identification
- 3.0 MS4 Retrofits
- 4.0 Management Plan for Commercial, Residential, and Federal and District Government Areas
- 5.0 Management Plan for Industrial Facilities
- 6.0 Management Plan for Construction Sites
- 7.0 Flood Control Projects
- 8.0 Control of Pollutants from Municipal Landfills, and Other Municipal Waste Facilities
- 9.0 Control of Pollutants from Hazardous Waste Sites
- 10.0 Pesticide, Herbicide, and Fertilizer Application
- 11.0 Deicing Activities
- 12.0 Snow Removal
- 13.0 Management Plan to Detect and Remove Illicit Connections
- 14.0 Enforcement Plan

- 15.0 Public Education
- 16.0 Monitoring of Storm Water Outfalls
- 17.0 Hickey Run Total Maximum Daily Load

Each section begins with a summary of the general Permit requirements and a listing of specific requirements pertinent to the section subject. General requirements are defined as those requirements in the Permit that have no specific date assigned for implementation. Specific requirements are those requirements that have been assigned a specific date for progress reporting, completion, and/or implementation. Following the Permit requirements, a brief summary of permit compliance is provided.

Supporting details and complete discussion of activities related to the section subject are then presented. Specific details are presented in order of the requirement listing in the Permit to facilitate review and comparison.

2.0 SOURCE IDENTIFICATION

2.1 REQUIREMENTS OF THE PERMIT

Part II of the Permit addressed Source Identification.

2.1.1 General Requirements

No general Permit requirements were identified for source identification.

2.1.2 Specific Requirements

The permittee shall compile and submit pertinent information on pollution sources (obtained since submittal of the Part II permit application for this permit), including significant changes (the definition of significant changes shall be provided in the first Annual Review and is subject to EPA approval) in the identification and mapping of storm sewer system (MS4) outfalls, and changes affecting the District's municipal separate storm sewer system (MS4) due to: land use activities, population estimates, runoff characteristics, major structural controls, landfills, publicly owned lands, and industries. This information shall be submitted in the Annual Reports to EPA and the D.C. Department of Health pursuant to the procedures in Part III C. of this permit. Analysis of data for these pollution sources shall be reported according to Part V of the Storm Water Model.

2.1.3 Permit Compliance

The activities conducted during the past year to develop a GIS database of the MS4 infrastructure and outfalls, together with the evaluation of changes as defined in the Permit, substantively comply with the permit requirements.

2.2 SIGNIFICANT CHANGES

The first Annual Review defined significant changes as, changes considered to have the potential to be of an important nature that revise, enhance, or otherwise modify the physical, legal, institutional, or administrative situation of:

- Land use activities

- Population estimates
- Runoff characteristics
- Major structural controls
- Landfills
- Publicly owned lands
- Industries

The EPA response dated June 05, 2001 states, "This submittal meets the requirements of the Permit and may be used as a basis for developing a more detailed analysis in the Annual Report…." Therefore, the District has accepted the above stated definition of "significant changes". A copy of the letter is provided in Appendix 1-E.

2.2.1 Land Use Activities

The District of Columbia is highly urbanized, with little available land for further development. Redevelopment of existing areas is subject to the District's storm water regulations with a review by DOH. Based on discussions with Storm Water Task Force Members, no significant land use activity changes were identified during the past year in the portion of the District served by the MS4.

2.2.2 Population Estimates

The Bureau of the Census reported in the 2000 Census of Washington, DC there were 572,059 people residing within the City. According to the 1990 Census there were 606,900 people residing in the City. This is a decrease in population of 34,481 people or 5.7%. While a 5.7% decrease in population over the past 10 years is not deemed to be significant with respect to sources of pollution in storm water, a continued trend in population reduction could result in changes in the future. Population data from the U.S. Census Bureau is provided in Appendix 2-A.

2.2.3 Runoff Characteristics

As noted in Section 2.2.1 above, no significant changes in land use activities were identified during the past year. Therefore, no significant changes in the runoff characteristics were identified in the MS4 drainage area.

2.2.4 Major Structural Controls

On-going maintenance of the MS4 infrastructure including structural controls is conducted to ensure consistent performance of MS4 components. There have been no major structural controls added or removed from the MS4 system during the past year. A Low Impact Development (LID) pilot project being implemented in conjunction with the reconstruction of 8th Street, is a structural control scheduled for completion during the upcoming year. The BMPs under consideration to treat oil and grease and floatable debris in Hickey Run are another example of structural controls that may be constructed during the upcoming year. The 8th Street LID pilot project and Hickey Run BMPs are discussed in detail in Sections 4 and 17 of this report, respectively.

2.2.5 Landfills

There are no active landfills within the District.

2.2.6 Publicly Owned Lands

The National Park Service is the primary public entity holding land within the District of Columbia. According to the fiscal year 2001 listing of acreage by Park, the National Park Service owns 4,327.01 acres within the District. According to the 1997 listing of acreage, there were 4,328.23 acres under the control of the National Park Service. This is a decrease of 1.22 acres over the last five years.

The US Forest Service Agricultural Research Service runs the National Arboretum. The Arboretum is 446 acres in size and has not increased or decreased in size in the past five years.

The DC Department of Parks and Recreation also controls acreage in the District. According to Parks and Recreation Personnel, there are 867 acres of land under its control.

The amount of publicly owned lands in the District has been stable over the last year with no significant changes in public land ownership.

2.2.7 Industries

No significant changes in industrial activity were identified over the past year. The Industrial Facilities Database has been updated and is discussed in detail in Section 5 of this report. The database will be used in the future to track changes in industrial activity in the District.

3.0 MS4 RETROFITS

3.1 REQUIREMENTS OF THE PERMIT

Part III.B of the Permit requires the District to conduct an evaluation of the location, size, and number of MS4 retrofits that will be necessary to meet the requirements of the Clean Water Act and EPA regulations.

3.1.1 General Requirements

No general permit requirements were identified for MS4 retrofits.

3.1.2 Specific Requirements

The permittee shall conduct an evaluation of the location, size, and number of MS4 retrofits (pursuant to Chapter 5 of the Part 1 Draft District of Columbia Government Storm Water Management Plan (Exhibit 20)) that will be necessary to meet the requirements of the Clean Water Act and EPA regulations. The evaluation is subject to EPA approval. The evaluation results will be reported in the first Annual Report pursuant to the requirements in the Annual Report paragraph (Part III.C. and D.) of this permit.

3.1.3 Permit Compliance

The discharge monitoring program, MS4 infrastructure mapping and storm water model development are necessary components of the MS4 evaluation to be conducted. Significant progress in the collection of discharge data, system mapping, and model development has been made.

3.2 MS4 RETROFIT ACTIVITY

3.2.1 Evaluation of MS4 Retrofits

After approval by EPA of the nine alternative sampling locations on January 17, 2002, Department of Health Water Quality Division (DOH WQD) authorized the initiation of the storm water discharge sampling program. Complete results of the sample analysis results for the past year are included in the Discharge Monitoring Report submitted in April 2002. Section 16 of this report provides a summary of the Discharge Monitoring Report.

The sample analysis results reported in the Discharge Monitoring report together with future monitoring data, the MS4 mapping data base and Storm Water System Model (discussed in Section 4) will be used to complete the evaluation of the MS4 system. The evaluation identifying retrofits and modifications necessary to meet the requirements of the Clean Water Act and EPA regulations will be completed and included as part of the SWMP to be submitted in October 2002.

3.2.2 Planned MS4 Retrofits

The MS4 system serving the headwaters of the Hickey Run watershed has been identified as a potential location for MS4 retrofit. A Watershed Management Plan has been prepared summarizing MS4 activities in the Hickey Run Watershed, and providing recommendations for a comprehensive evaluation of storm water quality, and a targeted education and enforcement program aimed at improving storm water quality in the watershed. A specific focus of the plan is reducing oil and grease loading to Hickey Run. Currently, a structural BMP is being evaluated for construction at the outfall of the largest of the four outfalls from the MS4 system to Hickey Run. The BMP will be designed to treat oil and grease, and remove floatable material.

A synergistic cooperative agreement is being explored with the National Arboretum, which owns the land where the proposed BMP would be constructed. Section 17 of this report provides additional details regarding the Hickey Run Total Maximum Daily Load (TMDL), and permit related activities to reduce pollutant loading from the MS4.

No additional retrofits have been identified during the past year.

4.0 MANAGEMENT PLAN FOR COMMERCIAL, RESIDENTIAL, AND FEDERAL AND DISTRICT GOVERNMENT AREAS

4.1 REQUIREMENTS OF THE PERMIT

Part III.B.1 of the Permit requires the District to implement the November 4, 1998 SWMP, to reduce the discharge of pollutants from Commercial, Federal and District government owned/operated facilities, and residential areas into the District's storm sewer system (MS4).

4.1.1 General Requirements

EPA regulations at 40 CFR 122.26(d)(2)(iv)) and the SWMP shall be implemented (as described in the District's November 4, 1998 SWMP, as modified by the upgraded SWMP) to reduce the discharge of pollutants from commercial, Federal and District government owned/operated facilities, and residential areas into the District's storm sewer system (MS4). The Permittee shall continue current practices of road, street, and highway maintenance as described in the SWMP.

Control for government, commercial, and residential storm water runoff shall consist of a mix of program activities addressing trash, debris and other storm water pollutants, including but not limited to:

- *A shift in focus from just the minimum storm water controls required under local ordinances and guidelines to programs that encourage the use of functional landscape to enhance the aesthetic and habitat value at new parking lots and/or new developments;*

- *Low impact development practices such as reduced road length and width, use of infiltration trenches, porous pavements, grassy swales and filter strips where appropriate;*

- *A coordinated catch basin cleaning and street-sweeping strategy that optimizes reduction of storm water pollutants;*

- *Coordination with solid waste program to include leaf collections;*

- *Preventative maintenance inspections for all existing storm water management facilities;*

- *Development and implementation of a rain leader disconnection program;*

- *Development of a phased approach to storm water public education which includes collecting pet feces and environmentally-friendly fertilizing and landscaping techniques;*

- *Modeling of storm water impacts;*

- *Developing a simple method for measuring the performance of these activities; and*

- *Strengthening the erosion control program for new construction.*

The permittee shall maintain the authority to control all types of discharges into the waters of the District.

4.1.2 Specific Requirements

The permittee shall develop and implement a program to control storm water discharges from Federal and District-government areas to the same extent as that for commercial, residential, and industrial areas. The status of this program shall be reported in each Annual Report/Review required by Part III.C. and D. of this permit. Information shall be provided as to how the implementation of these procedures will meet the requirements of the Clean Water Act.

4.1.3 Permit Compliance

The specific requirement to develop and implement a program to control storm water discharges from Federal and District-government areas is progressing. DOH has signed agreements with DPW and the General Services Agency (GSA) requiring federal contractors working on buildings or highway improvements to meet the requirements of the District's Erosion and Sediment Control Regulations.

The general requirements of the Permit require a mix of programs to meet the requirements of the Clean Water Act. The following sections summarize the progress

made to date to improve the control of storm water runoff from government, commercial, and residential areas of the District.

4.2 MANAGEMENT PLAN FOR COMMERCIAL, RESIDENTIAL, AND FEDERAL AND DISTRICT GOVERNMENT AREAS ACTIVITIES

A coordinated program of activities is included in the management plan for commercial, residential, and Federal and District government areas. The following sections detail progress for each activity over the past year.

4.2.1 Functional Landscaping

Through Howard University, DPW is conducting a study of BMPs to determine which can be used most effectively in commercial, residential, or governmental areas and operations. This study will outline which practices are most cost-effective, and are recommended for implementation at road construction and reconstruction projects in the District.

The report on BMPs is anticipated to be completed in Spring 2002. A draft of the Howard University report titled, "Evaluation of Best Management Practices for Managing Storm Water from Transportation Facilities, Construction Sites, and Snow Removal Operations", is included in Appendix 4-A.

In December 2000 the Department of Health Watershed Protection Division (DOH WPD) released a draft "Riparian Forest Buffer Strategy for the District of Columbia Nonpoint Source Management Program". The purpose of the strategy is to help manage nonpoint sources of pollution and to educate public groups to manage Riparian Buffers in the District, using a voluntary approach.

The strategy recommends two zones of buffering. Zone 1 is located at the edge of stream and is a minimum of 35 feet wide. This is the minimum area to maintain a buffer depth of three to five trees. Zone 2 is 20 feet wide and consists of grasses and is designated a "No Mow Zone." The buffer zone allows for slowing down and providing natural treatment storm water of runoff, as wells as providing wildlife habitat.

Several citizens and government agencies expressed concerns about Riparian Forest Buffers. Concerns included the vandalism of planted vegetation and signage, creation of

areas prone to “criminal activity,” and increases in the “wild appearance” of areas. To help address these concerns, the strategy was revised to include four additional goals:

- Coordinate the restoration and protection of riparian buffers in the District. This would include the establishment in the subwatershed, a Restoration Action Strategy, a discussion of riparian buffers and plans for riparian buffers to be maintained or established.

- Meet regularly with government officials and citizens groups, and train developers in the use and application of riparian buffers. The meetings with citizens include distribution of educational documents, and the involvement of citizens in the actual development and restoration of riparian buffers.

- Monitor and maintain planting in order to ensure that the plantings have a better survival rate. This will be accomplished by encouraging volunteers and residents of the neighborhood to regularly inspect and report incidents of vandalism or destruction of the buffer, and the need for replacement of trees that die.

- Amendments to the Water Pollution Control Act of 1984 to include language, which will protect riparian buffers and other critical habitats.

The draft Riparian Forest Buffer Strategy for the District of Columbia Nonpoint Source Management Program is provided in Appendix 4-B.

The DOH WPD encourages developers to use functional landscaping techniques in site development plans submitted for approval. This is accomplished by inviting developers to training sessions where functional landscaping is demonstrated. Developers then use what they learned in training to incorporate functional landscape techniques into their plans, thus assisting storm water management and sediment control regulation compliance.

4.2.2 Low Impact Development Practices

The Department of Public Works Division of Transportation (DDOT) has incorporated low impact design in the reconstruction of the intersection of 8th Street SE between Pennsylvania Avenue and M Street, in SE Washington, DC. The project will involve a redesign of the roadway to better facilitate drainage, and increase holding time of storm

water runoff in the area. This pilot project will be used to evaluate the effectiveness of low impact development techniques within transportation capital projects to reduce storm water runoff, and improve storm water quality. In January 2002, DDOT requested the DOH WQD to provide monitoring of storm water runoff in the existing condition, and after reconstruction with the LID features in place. The evaluation of this pilot project, together with the results of the Howard University BMP Study will be used to refine the selection and design of LID features to be incorporated in future road and street construction and reconstruction within the District.

The Low Impact Development Center, Inc., a non-profit organization working with DDOT on the LID, has developed ratios of the sand, silt, clay, and mulches used in the soil mixture for the planting beds, piping that will be placed under the beds, depth at which the trees will be planted, etc. Copies of the Low Impact Development Centers comments and design drawings and details of the LID pilot project being implemented at 8th Street are provided in Appendix 4-C. Construction is scheduled for completion during FY 2003.

The DOH WPD promotes and encourages the use of LID techniques. Between January 2001 and February 2002, the DOH WPD approved 21 LID storm water management plans as demonstration projects. These projects were for demonstrations at government facilities, commercial properties, and residential construction sites, including 14 major projects using Bio-Retention Ponds, and 7 using Vegetated Bio-Filters as BMPs for pollution control. Copies of the summary sheets of approved plans that utilize LID techniques are provided in Appendix 4-D.

The DOH is currently requesting that the District's Building Code Advisory Committee implement two changes to the DC Plumbing Code. The changes, drafted by the Natural Resources Defense Council (NRDC), would remove perceived obstacles to the voluntary use of low impact design techniques. The rain leader disconnection program will be revised to allow runoff to be channeled to a grassed area for infiltration instead of a direct conveyance to the sewer system. Rain leader disconnection is discussed in detail in Section 4.2.6.

4.2.3 Catch Basin Cleaning and Street Sweeping Activities

4.2.3.1 Coordination of Catch Basin Cleaning and Street Sweeping Activities

Currently DPW is responsible for street sweeping activities in the District, and WASA conducts catch basin cleaning as part of its operation and maintenance of the MS4 conveyance infrastructure.

WASA and DPW are coordinating street sweeping and the cleaning of catch basins through discussions with foremen responsible for these activities. Catch basin cleaning and sweeping are coordinated to the extent practicable to minimize floatable discharges into receiving waters. The current informal coordination effort will be updated and a more formalized agreement will be developed as part of the revised SWMP to be submitted in October 2002.

4.2.3.2 Street Sweeping Activities

According to the Clean City's Report for FY 2001, a total of 34,000 miles of streets, freeways, and highways were cleaned mechanically, and 8,751 alleys were cleaned manually and mechanically. Street sweeping and alley cleaning work yielded 9,981 tons of collected debris in FY 2001; to accomplish this task, 300 full time employees were assigned to the task, and $11,103,157 was spent. To date, 18,088 miles of street and 3,010 alleys have been cleaned, and 3,202 tons of debris have been collected in FY 2002. A total of 306 full time employees are assigned to the task and $12,795,845 is budgeted for FY 2002. DPW hired 13 new operators and increased the number of mechanical street sweeper routes from 10 in 2000 to 29 in 2001. In FY 2001, DPW hired 22 new alley sweeper operators, increasing the frequency of which alleys were swept. Details of street sweeping activities are included in Appendix 4-E.

As part of Street Sweeping Activities DPW has placed 4,000 trashcans in strategic areas, including bus stops and high-density commercial areas where pedestrian traffic is heavy. During the first five months of FY 2002 DPW collected 3,400 tons of trash as a result of this activity.

4.2.3.3 Catch Basin Cleaning Activities

In FY 2001, WASA Department of Sewer Services had 21 people assigned to the task of catch basin cleaning, with a budget of $930,000, and an additional 10 people were assigned to catch basin repair, with a budget total of $677,000. WASA primarily uses Stetco clam-bucket vehicles to clean the catchbasin. Jet-Vac Combination Machines are used to clear clogged catch basin connection and to clean storm grate inlet structures that are too small for the clam buckets. Each working day, nine two-man crews clean approximately 15 catch basins, producing 12,000 tons of trash annually from the catch basin cleaning program. Appendix 4-F contains details of the catch basin cleaning and repair programs.

4.2.4 Coordination of Leaf Collection

DPW conducts curbside vacuum collection of leaves from the residences in the District. The City's eight wards are divided into districts, and twice during the collection season leaves are collected from each district on specified days. DPW leaf vacuum trucks make a minimum of at least two passes on each District street. District residents are mailed a flyer prior to leaf collections. The flyer discusses the benefits of the leaf collection program, and gives residents several options for collection. Residents may rake leaves into piles which are vacuumed by one of the District's 52 leaf vacuum trucks, place leaves into a pile in a treebox space in the front of their property, or bag leaves and place them in the treebox. In 1999 DPW expanded its leaf collection program by purchasing 27 additional leaf vacuum vehicles; five additional leaf collection vehicles were refurbished and put back into service in the last fiscal year. Currently, there are 32 vacuum vehicles involved in leaf collection activities, in addition to 32 dump trucks, 14 vans, 6 packers, 2 roll-offs, 1 loader, and 7 pickup trucks. DPW assigns 55 Motor Vehicle Operators, 136 Sanitation Works, 2 Clerks, 2 Heavy Mobile Equipment Repairers, 4 Station Foremen, and 1 General Foreman to leaf collection activities during the three month collection period.

Leaf collection activities for the past year were scheduled from November 5, 2001 through January 12, 2002. The Clean City Initiative report provided by the DPW indicates that 4,828 tons of leaves were collected during FY 2001, and 8,983 tons of leaves were collected in FY 2002. These tonages represent leaves collected by the

vacuum trucks, and do not include bagged leaves, which are collected separately. Information on leaf collection activities in provided in Appendix 4-E

4.2.5 Preventive Maintenance Inspections for Storm Water Management Facilities

WASA Department of Sewer Services inspected 156 storm water control devices from June to December 2001. WASA conducted inspections as part of their routine maintenance program, including the inspection of 15 storm water pumping stations, and 9 wastewater/combined pumping stations. These maintenance inspections include greasing of bearings, draining condensate, exercising equipment, checking oil levels, visual inspections, and housekeeping. These inspections were conducted on a daily, weekly, or monthly basis according to the inspection schedule. The Department of Maintenance Services performs corrective maintenance on pumping stations in response to work order requests from the operational staff.

In addition to the catch basin cleaning program, WASA performs preventive maintenance on the storm sewer system. These maintenance activities include responding to reports on blockages or defects, and the clearing of lateral channels, and ensuring that the outlet structures of the MS4 remain clear. According to cost estimates provided by WASA, 1,000 tons of debris are removed each year during these activities. This program utilizes four workers, 1 crane truck, 1 crew cab dump truck, and 1 pickup truck. Appendix 4-G contains details of preventive maintenance related to pumping station inspection and maintenance, corrective maintenance and clearing of lateral channels and outlet structures.

DOH has prepared a declaration of covenants for Storm Water Management. The declaration has been incorporated into the approval process for new construction activities. These covenants state that the District will provide a schedule of maintenance activities, storm water management devices will be inspected periodically, the owner will be required to correct any noted deficiencies at the owner's cost, and that the Declaration of Covenants will extent in perpetuity. The Covenants will transfer with the property to the new owner. During FY 2001, 160 BMPs for new construction at residential and commercial construction projects were approved by DOH WPD. The Covenants are included in Appendix 4-H of this report.

A coordinated effort is being made by all District agencies to conduct inspections of storm water management facilities on a regular basis. This coordination began in FY 2002. Currently a database of all storm water management facilities is being maintained; schedules of inspections are coordinated through this database. This effort will be reevaluated in the updated SWMP

4.2.6 Rain Leader Disconnect Program

According to the District of Columbia Construction Codes Supplement, all roof drainage must flow into the separate storm sewer or combined sewer. In new construction activities this regulation is currently enforced during the plan review prior to construction, and during the site inspection process. For existing buildings these regulations are enforced as a result of the discovery of illegal connections to the sanitary sewer system in the separate sewer system area.

Through the District's Building Code Advisory Committee (BCAC), DOH is presently requesting proposed changes to Section 1101.2 of the DC Plumbing Code to eliminate perceived obstacles to the voluntary use of LID. Programs such as rain leader disconnection for new developments, which would allow runoff to be channeled to grassed areas for infiltration instead of direct conveyance to the sewer system, could then be encouraged. The NRDC has drafted the proposed revision, which is currently being considered by the Plumbing Subcommittee of BCAC. A second amendment, which would allow rain leader disconnection for projects involving alteration and repairs of existing buildings, is also being proposed to the existing International Plumbing Code.

4.2.7 Education of Public on Pet Wastes, Fertilizing, and Landscaping

Section 15.0 of this report contains a complete discussion of educational initiatives taken by agencies of the District to educate the public on the proper disposal of pet waste, use of fertilizing, pesticides, and herbicides, and the proper use of landscaping to control storm water runoff.

During the second half of FY 2001 environmental education literature addressing pet wastes, pesticide, herbicide, and fertilizer applications was provided to 4,977 residents. DOH WPD continued to promote the proper application of pesticide, herbicide, and fertilizer through its Nutrient Management and Integrated Pest Management (IPM) Programs. In the fall of 2001 DOH WPD mailed a pamphlet to more than 950 registered

pet owners in the District that explains the importance of properly disposing of pet waste. The brochure was also distributed at two pet fairs in the city.

DOH WPD continued to provide users with the Nonpoint Source (NPS) video that provides suggestions on proper lawn fertilization, disposal of household waste, and the application of pesticides and herbicides. The video also was shown at more than 23 teacher training workshops conducted in the city.

4.2.8 Mapping and Computer Modeling of Storm Water Impacts

Existing mapping of the separate storm sewer conveyance system has been digitized and combined with the data regarding storm sewersheds and outfall locations to create a database of the MS4 infrastructure. Figure 4-1 illustrates the MS4 infrastructure and outfall locations. Both the conveyance system and outfall data require field verification and quality assurance/quality control (QA/QC) of the database. Additional information (such as the industrial facility database, location of structural improvements, etc.) will be added to the database providing an integrated planning and management tool for the MS4. Field verification of the MS4 database system will be a phased process with targeted areas (i.e., Hickey Run sewersheds) identified for the first phase of work.

In preparing the Long Term Control Plan for the Combined Sewer System (CSS), a model of the MS4 was created using the Danish Hydraulic Institute's MOUSE model. The model currently simulates rainfall runoff in each sewershed but does not include the MS4 conveyance system; however, MOUSE has this capability. The existing model can provide runoff volume that can be used together with outfall sampling data to estimate pollutant loading on a sewershed basis. Appendix 4-I contains the text of the Separate Storm Water System Model Documentation prepared for the CSS program.

4.2.9 Methods of Measuring the Performance of Activities

No formalized system has been developed to measure the performance of storm water management activities to reduce pollution loading to receiving waters. Significant progress has been made in the development of measurement tools, including physical tools such as the discharge monitoring program, MS4 database system, and runoff model, and legal/administrative tools including passing of legislation, and developing a financial tracking system to better define storm water related expenses. Refining these tools will

provide the necessary performance metrics for establishing a simple method to measure the performance of MS4 activities.

4.2.10 Strengthening Erosion Control Programs for New Construction

DOH WPD has strengthened its program of conducting inspections of new construction activities. DOH WPD has increased inspections of federal and District of Columbia projects including road construction and rehabilitation efforts. To assist in performing these tasks, DOH and DPW have signed a Consent agreement requiring DPW operations to comply with the District's Sediment and Erosion Control regulations. During FY 2000 a similar agreement was signed between the DOH and the U.S. General Services Administration. This agreement required federal contractors working on buildings or highway improvements to meet the requirements of the District's Erosion and Sediment Control Regulations.

During FY 2001, 1,393 project construction plans were reviewed and 1,196 were approved; 5,298 construction site inspections were performed, and 234 enforcement actions were taken for violations of storm water regulations. DOH WPD approved 160 BMPs for storm water management at residential and commercial construction projects.

Additional efforts are being made by DOH to reduce storm water impacts from new construction in the District. As new and innovative BMPs for erosion and sediment control are developed, existing standards and specifications will be revised and updated. DOH, DPW, and WASA are currently reviewing a second draft of a new sediment and erosion control plan. Once approved, this document will be submitted to the District Council for approval and incorporation into the D.C. Code.

4.2.11 Federal Facilities Program

As noted above, the U.S. General Services Administration and DOH signed a consent agreement in FY 2000, which requires work under contracts through the GSA to comply with the same sediment and erosion control requirements as commercial, residential, and industrial operations in the District. This consent agreement assists the District in ensuring that federal facilities comply with the Soil Erosion and Sediment Control Act. A number of federal facilities have NPDES permits for storm water discharges and were inspected during FY 2001. A discussion of these inspections is provided in Section 5.

This program will meet the requirements of the Clean Water Act by applying appropriate provisions of the Storm Water Management Plan to federal facilities.

4.2.12 District Facilities Program

In FY 2000, DPW and WASA signed consent agreements that required their operations and operations of their contractors to comply with the same sediment and erosion control requirements as commercial, residential, and industrial operations in the District. A copy of the Memorandum of Understanding between the District Agencies is provided in Appendix 1-C.

4.2.13 Continuance of Current Programs

DPW will continue maintaining the highway and street systems within the District of Columbia. DPW has signed a multi-year contract for highway maintenance and inspections. A copy of a sample scope of work for highway maintenance activities including storm water management requirements is provided in Appendix 4-J.

During FY 2002, DPW will begin calculating the costs of work associated with storm water pollution management and control. A report on these costs will be submitted to the Storm Water Administrator by October 2002 to support requests for monies in the FY 2003 budget.

4.2.14 Maintenance of Legal Authority to Control Discharges

Through Chapter 5 of the DCMR, and the D.C. Law #13-311 "Storm Water Permit Compliance Amendment Act of 2000," the District of Columbia has maintained the legal authority to control all discharges into waters of the District.

5.0 MANAGEMENT PLAN FOR INDUSTRIAL FACILITIES

5.1 REQUIREMENTS OF THE PERMIT

Part III.B.2 of the Permit requires the District to implement a program to monitor and control pollutants in storm water discharged to the District's MS4 from Industrial Facilities, and continue to maintain and update the industrial facilities database.

5.1.1 General Requirements

The permittee shall implement a program to monitor and control pollutants in storm water discharged to the District's MS4 from Industrial Facilities, pursuant to the requirements in 40 CFR 122.26(d)(2)(iv)(C). These facilities shall include, but are not limited to:

- *Private Solid Waste Transfer Stations*
- *Hazardous Waste Treatment, Disposal, and/or Recovery Plants*
- *Industrial Facilities subject to SARA or EPCRA Title III*
- *Industrial Facilities with NPDES Permits*
- *Industrial facilities with a discharge to the MS4*

The permittee shall continue to maintain and update the industrial facilities database. The permittee shall continue to perform or provide on-site assistance/inspections and outreach focused on the development of storm water pollution prevention plans and NPDES permit compliance.

The wet weather screening described in Part IV. C. of this permit and the November 4, 1998 SWMP includes collecting data on the discharges from industrial sites. This information shall be used by the Permittee in identifying problem industrial categories to better target outreach.

The permittee shall prohibit illicit discharges, control spills, and prohibit dumping.

5.1.2 Specific Requirements

The permittee shall develop and implement procedures to govern the investigation of facilities suspected of contributing pollutants to the MS4, including a review, if applicable, of monitoring data collected by the facility pursuant to its NPDES permit. These procedures shall be submitted as part of the first and second Annual Reports required by Part III.D of this permit.

A program to prevent, contain, and respond to spills that may discharge to the MS4 shall be developed, and a report on this development submitted in the first Annual Report. The spill response program may include a combination of spill response actions by the permittee (and/or another public or private entity).

Progress in developing and carrying out industrial related programs shall be reported in each Annual Report/Review required by Part III.C. and D. of this permit. An explanation shall be provided as to how the implementation of these procedures will meet the requirements of the Clean Water Act.

5.1.3 Permit Compliance

The establishment of a comprehensive database of industrial facilities in the District, and the initiation of the wet weather screening program are primary components of a program to the investigate facilities suspected of contributing pollutants to the MS4. Formalized procedures incorporating and refining the existing components of the program will be developed and included in the updated SWMP to be submitted in October 2002.

DOH, DPW, and WASA each have developed or are developing a spill response plan to prevent, contain, and respond to spills that may discharge to the MS4. These individual components will be formalized into a comprehensive program for inclusion in the updated SWMP to be submitted in October 2002.

The implementation of the management plan for industrial facilities will control and reduce storm water pollution from industrial facilities in accordance with the requirements of the Clean Water Act.

5.2 MANAGEMENT PLAN FOR INDUSTRIAL FACILITIES ACTIVITIES

Activities conducted in the past year related to developing and implementing a management plan for industrial facilities are detailed in the following sections.

5.2.1 Industrial Facilities Database

The DOH WQD maintains a database of industrial facilities with standard and storm water NPDES permits. The database is updated as new permits are issued. The database prepared as part of the Permit application listed 16 facilities with general or storm water NPDES permits.

A listing of over 2000 facilities in the District that are registered with federal and state regulators and generate, store, or have released hazardous materials has been prepared. The industrial facilities database will be updated to include relevant facilities from this list and utilized in the continued implementation of the program to monitor and control pollutants from industrial facilities in the District.

5.2.1.1 Private Solid Waste Transfer Stations

A total of four private solid waste transfer facilities and two private construction and demolition facilities are in operation within the District. Pollution from storm water runoff is being managed under the Solid Waste Facility Permit Act. District of Columbia Regulatory Authority (DCRA), DOH, and DPW enforce these regulations in coordination with its responsibility to manage pollution from storm water runoff at municipal waste facilities within the District.

5.2.1.2 Hazardous Waste Treatment, Disposal, and/or Recovery Plants

The District contains 2 RCRA Treatment Storage and Disposal Facilities (TSDFs), 25 RCRA Large Quantity Generators (LQGs), and 881 RCRA Small Quantity Generators (SQGs).

5.2.1.3 Industrial Facilities subject to SARA or EPCRA Title III

The list of industrial facilities registered with federal and state regulators includes 28 sites within the District that are subject to regulation under the Comprehensive Environmental

Response, Compensation, and Liability Act (CERCLA). These facilities will be evaluated as to their current status and included in the industrial database necessary.

5.2.1.4 Industrial Facilities With NPDES Permits

The permit application included a list of 16 facilities in the District of Columbia with NPDES permits. The listing of NPDES permitted facilities is included in Appendix 5-A. This list will be reviewed, updated, and incorporated into the industrial facilities database as part of the upgraded SWMP to be submitted in October 2002.

5.2.2 Industrial Facilities With a discharge to the MS4

The four industrial facilities with discharges to the MS4 are included in the list of 16 permitted facilities included in Appendix 5-A. As noted, this list will be reviewed, updated, and incorporated into the industrial facilities database as part of the upgraded SWMP to be submitted in October 2002.

5.2.3 Monitoring and Inspections

After approval by EPA of the nine alternative sampling locations on January 17, 2002, WQD authorized the initiation of the storm water discharge sampling program. Available results of the sample analysis results for the past year are included in the Discharge Monitoring Report submitted in April 2002. Section 16 of this report provides a summary of the Discharge Monitoring Report. The Wet Weather Screening Program as defined in section IV.C of the Permit will be implemented as part of the Wet Weather Outfall Monitoring Program, and in conjunction with the illicit discharge detection program to be implemented by June 9, 2002. The program for the detection and elimination of illicit discharges is discussed in Section 13 of this report.

Facilities to be investigated and monitored include private solid waste transfer stations, facilities subject to SARA Title III, and Resource Conservation and Recovery Act (RCRA) Treatment, Storage, and Disposal Facilities (TSDF).

Inspection requirements for storm water management are outlined in the District of Columbia Municipal Regulations (DCMR). Chapter 5 of the DCMR, Water Quality and Pollution, is included as Appendix 5-B of this report. The regulations require that facilities receiving storm water runoff must install a best management practice to control

the discharge of oil & grease concentrations exceeding 10 mg/l. Facilities with storage for animals must prevent the waste runoff from reaching the water of the District. Measures to control storm water runoff include infiltration of runoff, attenuation by open vegetated swales and natural depressions, retention structures, and detention structures.

5.2.4 Wet-Weather Screening Program

After approval by EPA of the nine alternative sampling locations on January 17, 2002, WQD authorized the initiation of the storm water discharge sampling program. Complete results of the sample analysis results for the past year are included in the Discharge Monitoring Report submitted in April 2002. Section 16 of this report provides a summary of the Discharge Monitoring Report. The Wet Weather Screening Program as defined in Section IV.C of the Permit is being implemented as part of the Wet Weather Outfall Monitoring Program, and in conjunction with the illicit discharge detection program. The program for the detection and elimination of illicit discharges is discussed in Section 13 of this report.

Screening procedures were developed using the November 4, 1998 SWMP as guidance and may be modified based on experience gained during field screening activities. These screening criteria need not conform to the protocol at 40 CFR 122.26(d)(1)(iv)(D). A description of the protocol developed will be provided in the next Annual Report with a justification for its use.

5.2.5 Spill Prevention, Containment and Response Program

In January 1999, the District implemented the Water Pollution Control Contingency Plan, which outlines procedures for notifying the incident commander and the trustees of the natural resources in the event of a spill and procedures for oil and hazardous substances emergency response. The Table of Contents from the Water Pollution Control Contingency Plan is included as Appendix 5-C of this report. The process of reviewing and updating the Plan is underway.

DPW currently relies on informal spill response training of personnel and the implementation of best practices to prevent spills and accidental discharges. In FYs 2002 and 2003, DPW will request funding from the Storm Water Enterprise Fund to purchase spill response kits, train personnel, and develop a formal spill response program.

6.0 MANAGEMENT PLAN FOR CONSTRUCTION SITES

6.1 REQUIREMENTS OF THE PERMIT

Part III.B.3 of the Permit is titled Management Plan for Construction Sites. General and specific requirements of this section are detailed below.

6.1.1 General Requirements

Part III.B.3 of the Permit states that the Permittee shall continue:

- *implementation of the component of the ongoing Storm Water Management Plan (SWMP) that addresses the discharge of pollutants from construction sites.*
- *the review and approval process of the sediment and erosion control plans under this program.*
- *with regular construction site inspections. When a violation of local erosion and sediment control ordinances occurs, the permittee shall follow existing enforcement procedures and practices.*
- *with educational measures for construction site operators that consist, at a minimum, of providing guidance manuals and technical publications.*

Additionally, the Permit includes that,

> *Public streets, roads, and highways shall be operated and maintained in a manner to reduce the discharge of pollutants. Standard road repair practices shall include limiting the amount of soil disturbance to the immediate area under repair. Storm water conveyances which are denuded should be resodded or reseeded and mulched for rapid revegetation, and these areas should have effective erosion control until stabilized. The program shall establish procedures that address spill prevention, material management practices, good housekeeping measures at all equipment and maintenance shops that support maintenance activities.*

6.1.2 Specific Requirements

Specific permit requirements to be addressed in this report include:

- *An evaluation shall be made and reported in the first Annual Report/Review to determine if the existing practice meets the requirements given in 40 CFR 122.26(d)(2)(iv)(A) and (D).*

- *The permittee shall submit its inspection and enforcement procedures to EPA in the first Annual Report.*

- *Progress in developing and carrying out the above construction related programs shall be reported in each Annual Report/Review required by Part III.C. and D. of this permit. An explanation shall be provided as to how the implementation of these procedures will meet the requirements of the Clean Water Act. This explanation will also show how these programs will lead to compliance with the above paragraphs in this part of the Permit (Part III.B.3.).*

6.1.3 Permit Compliance

6.1.3.1 General Requirements

The Permittee has complied with the general requirements of the Permit outlined above. Details of activities related to management of storm water discharges from construction sites during the past year are provided in Section 6.2 below.

6.1.3.2 Specific Requirements

Three specific requirements are identified in the Permit for management of storm water discharges from construction sites. Specifically:

- The existing practice generally meets the requirements given in 40 CFR 122.26(d)(2)(iv)(A) and (D). The components of the management program have been developed, and are in use. The individual components will be formalized into a management program as part of the revised SWMP to be submitted in October 2002.

- The inspection and enforcement forms were presented in the 2001 Annual Review. The specifics of the inspection and enforcement including inspection procedures and example forms are provided in Section 6.2 below.

- DOH WPD has a strong inspection and enforcement program for commercial and residential areas and is working diligently to strengthen its erosion control program for new construction, DOH WPD has increased its inspection and enforcement activities on federal and District of Columbia government projects, including road construction and rehabilitation projects. In an effort to further strengthen the erosion control program for new construction, the existing standards and specifications are scheduled to be revised and updated and will incorporate new and innovative BMPs for erosion and sediment control at construction sites. After public comment and legislative approval the revised specifications will be incorporated into the updated SWMP.

6.2 MANAGEMENT OF CONSTRUCTION SITE ACTIVITIES

6.2.1 Review and Approval Process

District agencies have developed a "One-Stop Permitting and Business Center" for the approval of construction plans. This ensures better quality control of reviewed plans. Minor projects are reviewed at the permit center and are either approved or rejected. Plans for major or more complex projects are reviewed and approved at the WPD's main office. Each year technical staff is given refresher training to improve efficiency and effectiveness in plan review. Plan review and site inspections are coordinated with DOH WPD enforcement staff and the DCRA to ensure that deficiencies in the Permit process are corrected when they are encountered.

6.2.2 Inspection and Enforcement Procedures.

Inspection procedures are outlined in the DCMR Water Quality and Pollution Regulations and the Nonpoint Source Plan for the District, which is included in Appendix 6-A.

During FY 2001 there were 5,298 inspections conducted at construction sites throughout the District. Appendix 6-B provides details regarding the inspection and enforcement program. Of these, 224 had enforcement actions taken for various issues. As part of the inspection process, standardized inspection reports, Soil Erosion and Sediment Control Inspection Forms, and Environmental Impact Screening Form (EISF) have been developed and are in use. These standardized forms provide more accurate record

keeping of inspections of construction sites. Copies of the forms are provided in Appendix 6-C.

During FY 2001 there were 224 enforcement actions taken that were violations of DC storm water regulations. The DOH WPD database of the Office of Adjudication and Hearings docket as of December 2001 is provided in Appendix 6-D. This docket shows there were286 cases which are considered closed, 10 cases listed as being in final default, 43 pending a decision, 16 have had fines ordered, 11 are still open, and 2 are being appealed.

6.2.3 Site Inspections and Loading Estimates

DOH is focusing its efforts in calculating loading estimates on the Anacosita Watershed, as this multi-jurisdictional watershed is of primary concern to District and surrounding governments. Loading estimates are being prepared for commercial, residential, and road development land uses. After completion of loading estimates in the Anacostia Watershed, effort will be focused on estimating loading for other watersheds in the District.

6.2.4 Educational Measures

Educational training for construction site operators is conducted during the site inspection process. This training includes distribution of the District's Storm Water Management Guidebook, and the Erosion & Sediment Control Handbook, and addresses particular needs and questions of the operators. These books outline the regulatory requirements of the District for construction activity. In addition to these handbooks, DOH WPD has begun distributing a video that illustrates the proper maintenance of the Sand Filter Water Quality Structure, and begun conducting workshops on low impact development, providing presentations at trade shows, and publishing articles in trade journals informing construction site operators of the requirements of the District's storm water regulations prior to submitting site plans. Copies of the Management Guidebook, and Erosion and Sediment Control Manual are provided in Appendix 6-E and 6-F, respectively.

6.2.5 Public Roads and Traffic Pollution Strategies

DPW continues to maintain streets and roads in the District through the use of its own personnel and equipment, and through private contractors. A copy of a typical RFP including requirements for storm water management is provided in Appendix 4-J.

Beginning in FY 2002, DPW will separate the costs of storm water management and pollution control for road maintenance projects in the District to provide improved costing data for analysis of storm water management options for road construction and maintenance.

Through Howard University, DPW is conducting a study of BMPs to determine which can be used most effectively in commercial, residential, or governmental areas and operations. This study will outline which practices are most cost-effective, and are recommended for implementation at road construction and reconstruction projects in the District.

The report on BMPs is anticipated to be completed in spring 2002. A draft of the Howard University report titled, "Evaluation of Best Practices for Managing Storm Water from Transportation Facilities, Construction Sites, and Snow Removal Operation", is included in Appendix 4-A of the final Annual Report.

6.2.6 Clean Air Act Compliance

DPW has instituted programs to reduce air pollution in the District of Columbia. Reductions in particulate emissions from vehicles result in a direct reduction in deposited pollutants that are flushed to receiving waters by storm water runoff. These programs include:

- Hiring a Bicycle Coordinator to encourage the use of bicycles for people who work and commute in the District. This individual is to find ways in proposed and existing road projects to expand the use of bicycles in the City. This will reduce the amount of air pollution from commuter vehicles. The Bicycle Coordinator's job description and duties are provided in Appendix 6-G.

- DDOT is working with the Washington Metropolitan Area Transit Authority (WMATA) to increase the amount of vehicles in the District that use alternative

fuels. In FY 2002 WMATA purchased 164 CNG buses and is currently constructing a natural gas fueling station with funding provided by the District government. The District funding includes $2.4 million for bus replacement and $1.8 million for clean bus retrofit. This will also decrease the amount of deposited pollution in the District.

DPW has increased the frequency of street sweeping, as discussed in Section 5.0. This will remove pollutants related to roads' vehicular traffic and prevent their impacts to the MS4 system.

6.2.7 Notifications to Historic Preservation Officer and U.S. Fish and Wildlife Service

Presently District Agencies are notifying both the Historic Preservation Officer and the U.S. Fish and Wildlife Service of proposed new construction activities and activities that have the potential to impact historically significant structures, or adversely impact endangered and threatened species. These procedures will be formalized for inclusion in the updated SWMP to be submitted in October 2002.

7.0 FLOOD CONTROL PROJECTS

7.1 REQUIREMENTS OF THE PERMIT

7.1.1 General Requirements

Potential impacts on the water quality and the ability of the receiving water to support beneficial uses shall be assessed for all flood management projects. The feasibility of retrofitting existing flood control devices to provide additional pollutant removal from storm water shall be evaluated. Critical unmapped areas shall be prioritized by the District for mapping with an emphasis on developed and developing acreage.

7.1.2 Specific Requirements

The above assessment, mapping program, and feasibility studies shall be reported in the Annual Reports/Reviews (Part III.C. and D.). The flood control measures necessary to meet the requirements of the Clean Water Act shall be submitted in the Upgraded SWMP (Part III.E.).

Reports of mapping of critical unmapped areas shall be summarized in the Annual Report/Reviews. An explanation shall be provided as to how the implementation of these procedures will meet the requirements of the Clean Water Act.

7.1.3 Permit Compliance

7.1.3.1 General Requirements

In complying with the Clean Water Act, the District of Columbia operates and maintains storm water and flood management facilities including BMPs, storm water inlets and conveyance system, pump stations, canals, flood gates, and weirs. The maintenance of these systems and implementation of the flood hazard rules have combined to meet the requirements of the MS4 Permit relating to flood control projects.

7.1.3.2 Specific Requirements

The feasibility of retrofitting existing flood control devices to provide additional pollutant removal from storm water has not been evaluated. The District continues to maintain the existing flood control infrastructure to ensure the maximum flood control capabilities

from the existing system. The Implementation Plan addresses the assessment of flood control measures necessary to meet the requirements of the Clean Water Act to be submitted in the Upgraded SWMP in October 2002.

Critical unmapped areas will be prioritized by the District for any mapping to be conducted by the District. The Implementation Plan includes a discussion of flood plain mapping with an emphasis on developed and developing acreage.

7.2 FLOOD CONTROL ACTIVITIES

7.2.1 Water Quality Impact and Beneficial Use Assessment

The maintenance of the flood control and mitigation measures is aimed at controlling the impact of flooding on water quality in the receiving water bodies. A Discharge Monitoring Program has been developed to monitor the discharges (outfalls) in compliance with the MS4 Permit. However, retrofitting of flood management facilities has not yet started, and sufficient data has not been collected to evaluate the impact of improved management on the quality of the water discharged from these facilities.

7.2.2 Existing Flood Control Devices Retrofit Assessment

The District of Columbia operates and maintains flood control devices including BMPs, pump stations, floodgates, weirs, canals, and storm water collection and conveyance systems. Under the governing regulations for structural storm and flood mitigation, these facilities are operated and maintained to ensure proper functioning. Work specific to the retrofit assessment of these facilities has not begun yet, but will be addressed in the implementation phase of the future term of the existing Permit. Meanwhile, flood plain development permit reviews, pollution reduction measures, and flood hazard mitigation measures have been implemented, and are all geared towards reducing pollutant loading to receiving waters.

7.2.3 Flood Plain Mapping

Flood hazard mitigation and floodwater pollutant removal requires identification of at-risk areas through flood plain mapping. Through the nation's flood insurance policy, the Federal Emergency Management Agency (FEMA) has developed flood plain maps for all areas of the United States. Supplemented by DPW, the 1985 FEMA Flood Insurance

Study 100-year and 500-year flood plain maps of the District of Columbia comprehensively fulfill the MS4 Permit flood plain mapping requirement.

7.2.4 Flood Plain Development Procedures and Reviews

The MS4 Permit requirements for flood plain development procedures and review are met through the promulgation of the District of Columbia Municipal Regulations, Title 20 (Chapter 31- Flood Hazard Rules), and the Department of Housing Nonpoint Source Management Plan II. These regulations describe in detail how projects proposed in flood plains will be reviewed to ensure proper consideration of pollutant reduction in flood prone areas. Together, these rules regulate, restrict, or prohibit certain uses, activities, and development, which alone or in combination with current or future uses will cause unacceptable increases in flood heights, velocities, and frequencies.

7.2.5 Impervious Surfaces Evaluation

The permit requires the collection of data on the percentage of impervious area located in flood plain boundaries for all existing and proposed development. Since the effective date of the Permit, this has been done for proposed developments through the construction plan information submitted with construction permit applications under District of Columbia Municipal regulation, Title 20. To address this provision of the Permit, data collection for previously existing impervious surface areas will be initialized during the remaining term of the Permit.

8.0 CONTROL OF POLLUTION FROM MUNICIPAL LANDFILLS AND OTHER MUNICIPAL WASTE FACILITIES

8.1 REQUIREMENTS OF THE PERMIT

Part III.B.5 of the Permit pertains to the Control of Pollution from Municipal Landfills and Other Municipal Waste Facilities. General and specific requirements of this section are detailed below.

8.1.1 General Requirements

The Permit requires that a municipal landfill and waste facilities plan be implemented in not more than three years (2003).

8.1.2 Specific Requirements

Four specific requirements are included in this section of the Permit for inclusion in this Annual Report:

- *The permittee shall develop and implement a program to identify measures to monitor and reduce pollutants in storm water discharges from facilities that handle municipal waste, including sewage sludge, and report the results of this activity in the first Annual Report.*

- *As part of this program, the permittee shall reduce pollutants in the storm water discharges from District-operated or owned solid waste transfer stations, maintenance and storage yards for waste transportation fleets and equipment, publicly owned treatment works, and sludge application and/or disposal sites which are not covered by an NPDES permit, and report the results of this effort in each Annual Report. In these reports, the Permittee shall indicate the additional work needed to meet the requirements of the Clean Water Act.*

- *The initial phase of the program shall contain procedures to evaluate, inspect, and monitor these sites. Based on the evaluations, inspections, and monitoring performed, priorities and procedures for implementing control measures for pollutant reduction at sites within the District's MS4 shall be developed. The goal*

of this investigative portion is to actively identify areas within these sites with poorer quality discharges during storm events, so that those areas will be given priority in implementing control measures. The initial phase monitoring, control implementation, and priority setting will be reported in the first Annual Report/Reviews.

- *An explanation shall be provided in the Annual Report on how the control plan meets the requirements of the Clean Water Act.*

8.1.3 Permit Compliance

DPW is currently utilizing many of the components of a program to monitor and reduce pollutants in storm water discharges from municipal waste facilities as it refurbishes the two existing transfer stations. The activities for the past year relating to the reduction of pollutants in storm water from municipal waste facilities are detailed in Section 8.2 of this report.

The Implementation Plan outlines the schedule for formalizing the existing activities and components into a municipal landfill and waste facilities plan to be implemented by April 2003.

8.2 MUNICIPAL LANDFILLS AND OTHER MUNICIPAL WASTE FACILITIES POLLUTION CONTROL ACTIVITIES

8.2.1 Municipal Waste Reduction Program

The District is entirely urban. Similarly, the waste handling facilities are paved and/or highly developed, so the management program should mainly target the Nonpoint Source (NPS) of runoff from these facilities. Approximately 207,000 tons of wastes are collected every year by all District government agencies. Commercial haulers collect about 423,000 tons annually from multi-family, commercial and institutional properties.

Regulatory programs directly supporting the District's NPS storm water protection and waste reduction efforts include the DOH's Nonpoint Source Management Plan II, which cites the Solid Waste Management and Multi-Material Recycling Act of 1988. This Act requires the recycling of certain wastes, thereby materially reducing the activities at waste handling facilities, further reducing resulting storm water pollution. In FY 2001,

the DPW collected an estimated 124,000 tons of solid waste plus another 20,000 tons of recyclables. The residential diversion rate in FY 2001 was 14.5%.

The amount of waste recycled by commercial haulers is not available because they are not required to report that data to the District. The DPW hired 3 people in FY 2001, and plans to hire another 6 in FY 2002 to assist in expanding residential and commercial recycling programs within the District of Columbia. A total of 10 people will be assigned to this program.

The District's government has established a solid waste facility permitting process for private solid waste transfer stations, which includes performance standards for operators of transfer stations.

The District's government does not operate any solid waste disposal sites within the District. Instead, municipal solid waste collected by DPW is deposited at one of two municipal waste transfer stations (4900 Bates Road, NE or 3200 Benning Road, NE). Under contract with a private firm, the waste is disposed of at the Fairfax County Energy Resource Recovery Facility in Fairfax County, Virginia.

Since FY 2001, the District government has been refurbishing the municipal solid waste transfer stations at Fort Totten and Benning Road. This refurbishing will involve improvements in the paving and drainage systems at both sites, and will begin in FY 2002.

DPW's evening street cleaning and other night operations are managed through a single facility. This site has undergone operating and infrastructure improvements which have been in progress since FY 2001; approximately $240,000 was set aside for these improvements.

The three District government solid waste handling sites are mechanically swept several times per week.

DPW has requested the coordinator of DOH WQD to provide water quality monitoring for municipal waste facilities including waste transfer stations and equipment storage and maintenance facilities. The request also includes monitoring of runoff from deicing activities, the storage of deicing materials, and the LID pilot project at 8th Main Streets. A copy of the request to DOH is included in Appendix 8-A

8.2.2 Prioritization of Municipal Waste Reduction Controls

The permit requires the District to develop priorities and procedures for implementing control measures for pollutant reduction at sites within the District's MS4. The initial phase of the program included procedures to evaluate, inspect, and monitor regulated sites. Based on the evaluation of the results of this monitoring, the District's solid waste management now includes waste reduction, recycling, and disposal.

9.0 MONITOR AND CONTROL OF POLLUTANTS FROM HAZARDOUS WASTE SITES

9.1 REQUIREMENTS OF THE PERMIT

Part III.B.6 of the Permit pertains to the Monitoring and Control of Pollutants from Hazardous Waste Sites. General and specific requirements of this section are detailed below.

9.1.1 General Requirements

The permittee shall complete an identification of industrial and high risk runoff facilities and develop procedures to map and record details of the facilities. Procedures to identify, map, and record the high risk facilities shall be completed by the end of this permit term (April 19, 2003).

The permittee shall prohibit hazardous waste discharge and has the authority under D.C. Code Section 6-701 and 6-711, which specify that all such discharges shall be by permit only.

9.1.2 Specific Requirements

Two specific requirements are listed in this section of the Permit for inclusion in this Annual Report:

- *The permittee shall establish procedures that provide for monitoring and controlling pollutants in storm water discharges to the MS4 from: hazardous waste recovery, treatment, storage, and disposal facilities; facilities subject to Section 313 of the Emergency Planning and Right-to-Know Act; and any other industrial facility that either the Permittee or the Regional Administrator determines is contributing a substantial pollutant loading to the MS4. This work shall be reported in each Annual Report/Review. Written procedures shall be incorporated in the Upgraded SWMP as described in Part III.F.*

- *The permittee shall develop procedures to govern the investigation of the identified facilities suspected of contributing pollutants to the MS4, including a review, if applicable, of monitoring data collected by the facility pursuant to its*

NPDES permit. Procedures governing the investigation of identified facilities and the method, schedule, and progress in implementing those procedures shall be submitted as part of the Annual Reports/Reviews. An explanation shall be provided as to how the implementation of these procedures will meet the requirements of the Clean Water Act. The hazardous waste plan, which is a compilation of all procedures required to be developed in this section, shall be implemented no later than three years.

9.1.3 Permit Compliance

The two primary components of developing the hazardous waste plan are: identification and mapping of facilities, and monitoring of storm water discharge to identify facilities that are contributing a substantial pollutant loading to the MS4. Both of these activities are in progress as described in Section 9.2 below.

The Implementation Plan outlines the schedule for formalizing the existing activities and additional components into a comprehensive hazardous waste plan to be implemented by April 2003.

9.2 MONITORING AND CONTROL OF POLLUTANTS FROM HAZARDOUS WASTE SITES ACTIVITIES

9.2.1 Monitoring of Pollutants from Hazardous Waste Sites

DOH initiated the discharge monitoring program in January 2001. Samples collected in both dry weather and wet weather conditions are analyzed for a full suite of hazardous components. These data will provide screening for hazardous materials released in storm water runoff from hazardous waste sites.

Illicit discharge detection is another component of the program to identify facilities that are contributing a substantial pollutant loading to the MS4. Identifying and sampling discharge from illicit connections may identify hazardous waste facilities with illicit connections.

9.2.2 Industrial Facilities Database

A database has been prepared that includes facilities in the District that are registered with federal and state regulators and generate, store, or have released hazardous materials.

As noted in Section 5.0, The following facilities located in the District are included:

- **Hazardous Waste Treatment, Disposal, and/or Recovery Plants -** The District contains 2 RCRA Treatment Storage and Disposal Facilities (TSDFs), 25 RCRA Large Quantity Generators (LQGs), and 881 RCRA Small Quantity Generators (SQGs).

- **Industrial Facilities subject to SARA or EPCRA Title III -** The Industrial Facility Database includes 28 sites within the District that are subject to regulation under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)**.**

- **Facilities Subject to Section 313 of EPCRA** - Two facilities that release toxic chemicals to the air, water, and land in reportable quantities under SARA Title III, Section 313.

9.3 HOW THIS PROGRAM MEETS REQUIREMENTS OF THE CLEAN WATER ACT

Full implementation of this program is critical with respect to the Clean Water Act. The primary method by which the act imposes limitations on pollutant discharges is the nationwide permit program established under Section 402 and referred to as the National Pollutant Discharge Elimination System (NPDES). Under the NPDES program any person responsible for the discharge of a pollutant or pollutants into any waters of the United States from any point source must apply for and obtain a permit.

10.0 PESTICIDES, HERBICIDES, AND FERTILIZER APPLICATION

10.1 REQUIREMENTS OF THE PERMIT

Part III.B.7 of the Permit outlines the requirements for pesticide, herbicide, and fertilizer applications. General and specific requirements of this section are detailed below.

10.1.1 General Requirements

No general requirements for pesticide, herbicide, and fertilizer applications were identified in the Permit.

10.1.2 Specific Requirements

Two specific requirements are listed in this section of the Permit for inclusion in this Annual Report:

- *The permittee shall continue to control the application of pesticides, fertilizers, and the use of other toxic substances according to current procedures and practices described in the SWMP and regulations. Such controls shall reduce the discharge of pollutants related to the storage and application of pesticides, herbicides, and fertilizers applied by employees or contractors, to public right of ways, parks, and other District property. The permittee shall implement programs to encourage the reduction of the discharge of pollutants related to the application and distribution of pesticides, herbicides, and fertilizers, pursuant to the D.C. SWMP as defined in Part X. of this permit. A report on the implementation of the above application procedures, a history of the improvements in the control of these materials, and an explanation on how these procedures will meet the requirements of the Clean Water Act shall be included in the Annual Report/Reviews.*
- *A screening characterization shall be completed to determine the sources of pesticides, herbicides, and fertilizers that contaminate the storm water runoff. This screening characterization shall be part of the outfall monitoring plan and performed according to that plan's schedule identified in Table 1. Levels of storm water pollution from this runoff at locations within the District shall be used to develop a priority system for control of these pollutants. The plan for reducing these pollutants shall be developed, implemented, and reported in each Annual Review.*

10.1.3 Permit Compliance

Control of pesticide, herbicide, and fertilizer applications is integrated into the public education program, and the discharge monitoring program. No plan for the control of pesticide, herbicide, and fertilizer has been developed. Details of the Pesticide Management Program are provided in Section 10.2 below.

The Implementation Plan details the schedule for development of a plan and procedures to control pesticide, herbicide, and fertilizer runoff, and meet the requirements of the Clean Water Act.

10.2 PESTICIDE, HERBICIDE, AND FERTILIZER APPLICATION ACTIVITIES

10.2.1 Control Program on District Property

Currently, the DOH Pesticide Management Program outlines the mission, goals, and implementation of the regulations that affect commercial applications of pesticide and herbicides. The program outlines the requirements for certification and training for the application of pesticides and herbicides in the District. The plan also outlines requirements for enforcement actions, and programs for protecting endangered species, workers, and ground water. A copy of the Pesticide Management Program is provided in Appendix 10-A.

10.3 CONTROL PROGRAM ON PRIVATE PROPERTY

DOH WPD provides educational programs to private property owners through pamphlets distributed to residents. The pamphlets address a lawn care service, the District Nutrient Management Program, and Integrated Pest Management and are used to better inform the public on proper use and disposal, and safer alternatives. These programs are further discussed in Section 15, and a copy of the pamphlet is provided in Appendix 10-B.

10.4 IMPLEMENTATION REPORT

This public information program has been fully implemented; District residents are currently informed on the proper use of pesticides, herbicides, and fertilizers. Additionally, DOH personnel regularly conduct public information sessions at various public fairs and festivals. See Section 15.0 on Public Education.

10.5 SOURCE CHARACTERIZATION SCREENING

DOH currently performs outfall monitoring for pesticides. As of December 2001 there were 18 sample sets collected, of which 6 were wet weather sampling events, and 12 were dry weather sampling events. Details of sample set activities are included in Section 16.0 of this report. Sampling for pesticides has been included in the sampling events, and pesticides have been detected in the samples collected from the outfalls. See Section 16 regarding the monitoring of the storm water outfalls.

11.0 DEICING ACTIVITITES

11.1 REQUIREMENTS OF THE PERMIT

Section III.B.8 of the Permit discusses Deicing Activities, and directs the Permittee to evaluate the use, application and removal of chemical deicers, salt, sand, and/or sand/deicer mixtures in an effort to minimize the impact of these materials on water quality.

11.1.1 General Requirements

No general requirements for deicing activities were identified in the Permit.

11.1.2 Specific Requirements

The permittee shall evaluate the use, application and removal of chemical deicers, salt, sand, and/or sand/deicer mixtures in an effort to minimize the impact of these materials on water quality. Techniques available for reducing pollution from deicing salts in snowmelt runoff and runoff from salt storage facilities shall be investigated and implemented. The preliminary results of this evaluation shall be reported in the first Annual Review. A final report on deicing shall be made in the first Annual Report. This evaluation shall be made a part of an overall investigation of ways to meet the requirements of the Clean Water Act. The compliance schedule for implementing the results of the deicing study shall be submitted to EPA before the expiration date of this permit for EPA approval. The deicing procedure shall be incorporated in the Upgraded SWMP. The approved deicing procedures shall be implemented within three years of the issuance of this permit to meet the requirements of the Clean Water Act.

11.1.3 Permit Compliance

The lack of snowfall in the 2001-2002 snow season delayed the initiation of the deicing study. The Implementation Plan outlines the revised schedule for implementing the deicing study and reporting the findings.

11.2 DEICER EVALUATION

DPW requested funding in FY2002 for water quality monitoring of runoff from deicing activities. DPW formally requested DOH to conduct water quality monitoring of runoff

from deicing activities performed during the 2001-2002 snow season to serve as part of the evaluation of deicing techniques. These data would serve as baseline for the evaluation of chemical deicers, salt, sand, and/or sand/deicer mixtures, as well as other techniques to reduce pollution from deicing salt in snowmelt runoff and runoff from salt storage facilities. A copy of the request for monitoring is found in Appendix 8-A. Snowfall to date in the 2001-2002 snow season has been minimal, and no baseline water quality data is available due to the lack of snow removal events.

Alternative chemicals and deicing techniques are scheduled for testing and evaluation during the 2002-2003 snow season. DPW will prepare a formal report by September 2003 outlining the results of the sampling, recommending modifications to deicing procedures, and including a schedule for implementing the recommendations.

After approval of the formal report, DPW will implement the recommended modifications to the deicing program during the 2004-2005 snow season. A request has been submitted to DOH by DPW to conduct monitoring from deicing activities. Following response from DOH, DPW will request information from the monitoring studies and incorporate the data into the deicing program. .

The activities related to the evaluation and implementation of deicing activities is included in the DPW Management Plan matrix provided in Appendix 12-B.

Currently, DDOT uses the corn-based snow and ice melting product “IceBan” as a pre-treatment on selected highways and bridges. The manufacturer of IceBan states that it is entirely organic, and reduces the corrosive effects and increases the effective range of salt. A copy of the manufacturer’s Material Safety Data Sheet (MSDS) is included in Appendix 11-A.

12.0 SNOW REMOVAL

12.1 REQUIREMENTS OF THE PERMIT

Part III.B.9 requires the Permittee to establish a program and operating plan to ensure excessive quantities of snow and ice control materials do not enter the District's water bodies.

12.1.1 General Requirements

No general requirements for snow removal were identified in the Permit.

12.1.2 Specific Requirements

The permittee shall establish a program and operating plan to ensure excessive quantities of snow and ice control materials do not enter the District's waterbodies. Progress in implementing the program and plan shall be reported in each Annual Report. The District shall avoid snow dumping in areas adjacent to water bodies, wetlands, and areas near public or private drinking water wells.

An alternate plan for snow removal may be developed by the District. If such a plan is approved by EPA in writing, it will become a part of this permit for the remainder of the term of this permit after the approval is granted. The snow removal plan shall be implemented in three years (April 19, 2003).

12.1.3 Permit Compliance

Dumping of snow in areas adjacent to water bodies, wetlands, or drinking water sources is not part of the District's snow management plan, and will be avoided except as necessitated by extreme emergencies.

At this time no alternate snow removal plan is envisioned. The existing snow removal plan will be reviewed and updated as necessary as part of the upgraded SWMP to be submitted for approval in October 2002.

12.2 SNOW AND DEICER CONTROL PROGRAM

Information on the District's activities to evaluate the use, application, and removal of chemical deicers, salt, sand, and/or sand/deicer mixtures in an effort to minimize the impact of these materials on water quality is provided in Section 11.0 "Deicing Activities."

DPW regularly prepares a Performance Measures Report that includes targets and achievements for a number of performance measures. In both the 1999-2000 and 2000-2001 snow seasons, the snow removal goal of having 80 percent of the main roads passable within 12 hours of a 4- to 8-inch snowstorm was achieved. A goal of 85 percent was established for the 2001-2002 snow season. Snowfall to date in the 2001-2002 snow season has been minimal, and no snow removal performance measures data is available at this time. The DPW Performance Measures Report for October 2001 is included in Appendix 12-A of this report.

The DPW Management Plan matrix submitted as part of the FY 2002 Agency Compliance Plan indicates that snow is not dumped near or into waterways during snow emergencies or in advance of major events unless under specific direction of federal authorities. Dumping of snow in areas adjacent to water bodies, wetlands, or drinking water sources is not part of the District's snow management plan, and will be avoided except as necessitated by extreme emergencies. The DPW Management Plan matrix is included as Appendix 12-B of this report.

12.3 ALTERNATE SNOW REMOVAL PLAN

The permit allows the District to develop an alternate snow removal plan and submit it to the EPA for approval prior to its implementation. At this time no alternate snow removal plan is envisioned. The existing snow removal plan will be reviewed and updated as necessary as part of the upgraded SWMP to be submitted for approval in October 2002.

13.0 MANAGEMENT PLAN TO DETECT AND REMOVE ILLICIT DISCHARGES

13.1 REQUIREMENTS OF THE PERMIT

Part III.B.10 of the Permit pertains to the Management Plan to Detect and Remove Illicit Discharges. General and specific requirements of this section are detailed below.

13.1.1 General Requirements

The permittee shall implement a program to prevent illicit discharges, as defined at 40 CFR 122.26(b)(2). However, those discharges listed at 40 CFR 122.26(d)(2)(iv)(B)(1) are to be addressed where such discharges are identified by the Permittee as sources of pollutants to the waters of the United States.

The permittee shall ensure the implementation of a program to further reduce the discharge of floatables (e.g. litter and other human-generated solid refuse). The floatables program shall include source controls and, where necessary, structural controls.

The discharge or disposal of used motor vehicle fluids, household hazardous wastes, grass clippings, leaf litter, and animal waste into separate storm sewers shall be prohibited. The Permittee shall ensure the implementation of programs to collect used motor vehicle fluids (at a minimum oil and anti-freeze) for recycle, reuse, and proper disposal and to collect household hazardous waste materials (including paint, solvents, pesticides, herbicides, and other hazardous materials) for recycle, reuse, or proper disposal. Such programs shall be readily available to all private residents and shall be publicized and promoted on a regular basis, pursuant to the Public Education plan in this permit at Part III.C.12.

Detection and elimination of illicit discharges shall include, but not be limited to, the following mix of strategies:

- *Development of an illicit connection detection and enforcement program to perform dry weather flow inspections in target areas;*
- *Visual inspections of targeted areas; and*

- *Issuance of fines, tracking and reporting illicit discharges, and reporting progress on stopping targeted illicit discharges, and in appropriate cases, chemical testing immediately after discovery of an illicit discharge.*

13.1.2 Specific Requirements

The permittee shall implement an ongoing program to detect illicit discharges, pursuant to the SWMP as defined in Part X. and Part IV.C. of this permit, and prevent improper disposal into the storm sewer system, pursuant to 40 CFR 122.26(d)(2)(iv) (B)(1). The accomplishments of this program shall be reported in the Annual Report/Reviews.

The District shall develop an enforcement plan for illicit discharges according to the schedule set forth in the following plan in paragraph 11 of this part of the Permit. A justification shall be provided for the control plan in the Annual Report/Reviews in terms of meeting the requirements of the Clean Water Act.

The permittee shall carry out all necessary inspection, surveillance, and monitoring procedures to remedy and prevent illicit discharges. The District shall carry out the necessary monitoring activities with the goal of meeting the requirements of the Clean Water Act. The permittee shall submit an inspection plan, inspection criteria, and documentation regarding protocols and parameters of field screening as a part of the first Annual Review. The inspection plan shall include a schedule and allocation of resources.

The permittee shall implement procedures to prevent, contain, and respond to spills that may discharge into the MS4. The Permittee shall provide for the training of appropriate personnel in spill prevention and response procedures. The implementation of this program shall be reported in the first Annual Review.

EPA may allow for additional time for implementing the parts of the illicit discharge program if such delay is required for statutory and regulatory modification and/or Control Board and Congressional approval. Requests for additional time may be made in the Annual Review and are subject to EPA approval. EPA is not obligated in any way to approve such delays. A compliance schedule shall be attached to a request for a delay and once approved by EPA becomes an enforceable part of the Permit. A request for a delay cannot be used as a justification for noncompliance.

13.1.3 Permit Compliance

DOH WPD has initiated an illicit discharge detection program, issued notices of violation, and is monitoring corrective actions by violators. Illicit connections not corrected are referred to the Plumbing Inspection Branch for enforcement action.

Illicit connection detection and enforcement procedures have been developed in conjunction with the dry weather screening, inspection of BMPs, and public education programs. These procedures will be finalized and become part of the upgraded SWMP to be submitted in October 2002. Removal of illicit connections reduces pollutant loading to receiving waters in accordance with the requirements of the Clean Water Act.

Procedures to prevent, contain, and respond to spills have been formalized in the Water Pollution Contingency Plan.

13.2 MANAGEMENT PLAN TO DETECT AND REMOVE ILLICIT DISCHARGES ACTIVITIES

DOH WPD has implemented an ongoing program to detect illicit discharges as required by the SWMP and the Permit, and to prevent improper disposal into the storm sewer system as required by federal regulations.

As part of the inspection of storm water management structures required under the Storm Water Covenant, DOH WPD has identified illicit discharges at ten sites in the District. In addition to the additional pollutant loading, these illicit connections to storm water management structures increase the frequency of required device maintenance, and may clog the devices, preventing them from operating as designed to treat storm water. DOH WPD has issued corrective action notices to the persons designated as being responsible for maintenance of the impacted storm water management facilities. Facilities that have not complied with the corrective action notice have been referred to the Plumbing Inspection Branch of the Department of Consumer and Regulatory Affairs for enforcement action. A copy of the memo detailing the detection of these illicit connections is provided in Appendix 13-A.

Other illicit discharges are under investigation as a result of DOH inspection activities, and citizen requests based on observation of flow events in the MS4. A copy of a December 2001 report detailing two such illicit discharge investigations is provided in Appendix 1-B.

13.2.1 Illicit Discharge Prevention Program

The permit requires implementation of a program to prevent illicit discharges. The Water Pollution Control Contingency plan was completed in January 1999 and provides guidance on timely and effective response to hazardous substance releases that threaten to impact the natural resources of the District of Columbia. A copy of the Table of Contents from the Water Pollution Contingency Plan is provided in Appendix 5-C.

The dry weather monitoring and inspection programs will continue to identify and eliminate illicit connections and discharges, thus removing these sources of pollutants to waters of the United States.

13.2.2 Floatable Reduction Program

WASA conducts the floatable reduction program utilizing skimmer boats on the Potomac and Anacostia Rivers. During the past year, WASA obtained a small, more maneuverable boat, capable of working closer to the shoreline and thus able to collect more floatable debris. Utilizing the skimmer boats, 630 tons of floatable materials were collected during the first ten months of 2001. This compares with 600 tons for the year 2000.

The BMP system proposed for installation in the National Arboretum on Hickey Run would remove floatable debris as well as treat storm water to remove oil and grease. It is estimated that the system would remove between 20 and 50 tons of floatable debris per year.

13.2.3 Wastes Collection Program

The Permit prohibits the discharge of used motor vehicle fluids, household hazardous wastes, grass clipping, leaf litter, and animal waste into separate storm sewers. The existing program for the collection of motor vehicle fluids and household hazardous waste has been expanded and a permanent, fixed location for hazardous waste drop-off is being included in the refurbishment of the two hazardous waste transfer facilities operated by DPW.

During the past year, two hazardous waste collection days, where residents may bring hazardous wastes for proper disposal, were conducted by DPW. The date of the next waste collection event is scheduled for May 11, 2002 at Fort Reno. A complete

discussion of the household hazardous waste collection activities for the past year is provided in Section 15.0.

Bagged grass clippings and leaves are collected throughout the year with regular garbage collection. Leaf litter is collected during November, December, and January by the DPW utilizing vacuum trucks. A discussion of leaf collection activities is provided in Section 4.0 of this report.

13.2.4 Inspection Plan

The Permit states that the Permittee will use a mix of strategies for the detection and elimination of illicit discharges. These strategies include development of an illicit connection detection and enforcement program to perform dry weather flow inspections in targeted areas, visual inspections of targeted areas, issuance of fines, tracking and reporting illicit discharges, and reporting progress on stopping targeted illicit discharges, and in appropriate cases, chemical testing immediately after discovery of an illicit discharge.

As part of the illicit connection detection and enforcement program, DOH conducted dry weather discharge sampling during the past year. Sample analysis results and discussion of the results is included in Section 16.0 of this report. Visual inspections are performed by WASA personnel when performing maintenance activities on catch basins and the MS4 infrastructure.

Enforcement of illicit connections is via an initial corrective action notice from DOH, and then referral to the Plumbing Inspection Branch of the Department of Consumer and Regulatory Affairs for legal enforcement action.

These individual components will be incorporated, together with an expanded public education program regarding illicit discharges, into a structured illicit connection detection and enforcement program as part of the updated SWMP to be submitted in October 2002.

13.2.5 Enforcement Plan

The Plumbing Inspection Branch of the Department of Consumer and Regulatory Affairs is responsible for enforcement illicit connections as violations of the plumbing codes. A discussion of enforcement activities is provided in Section 14.0 of this report.

As a general requirement of the Permit, it sates that the discharge or disposal of used motor vehicle fluids, household hazardous wastes, grass clippings, leaf litter, and animal waste into separate storm sewers shall be prohibited. Pursuing legislation to prohibit these activities is currently under consideration by DOH.

13.2.6 Spill Response Program

The Permit discusses implementing procedures to prevent, contain, and respond to spills that may discharge into the MS4, including the training of personnel in spill prevention and response procedures.

The Water Pollution Contingency Plan provides guidance on timely and effective response to hazardous substance releases that threaten to impact the natural resources of the District of Columbia. The plan also addresses the pollution and resource assessment, mitigation, clean up and follow up actions resulting from non-permitted discharges. The procedures outlined in the contingency plan are followed for reports of illicit discharges. As noted previously, a copy of the Water Pollution Contingency Plan is provided in Appendix 5-C.

DPW has incorporated spill response activities into employee training best housekeeping practices at equipment storage and maintenance facilities. DPW has requested funding from the Storm Water Enterprise Fund to purchase spill response kits and conduct training in their use. A formal spill response plan will be incorporated into the updated SWMP to be submitted in October 2002.

13.2.7 Request for Additional Time

In the 2001 Annual Review, the Permittee requested additional time to implement the illicit discharge program in accordance with Part III.B.10 of the Permit. At that time the Storm Water Permit Compliance Amendment Act had not been approved, and so funding for the program was not yet available. The Permittee requested 12 months from the date of final approval of the Act to complete development of its illicit discharge program. The Act was approved on June 9, 2001, providing an extension of time until June 9, 2002 under this request. The EPA acceptance of the 2001 Annual Review dated June 05, 2001 stating, “This submittal meets the requirements of the permit…” is interpreted as approval of this request for additional time. Appendix 1-E contains a copy of the acceptance letter from the EPA.

14.0 ENFORCEMENT PLAN

14.1 REQUIREMENTS OF THE PERMIT

The Permit in Part III.B.11 requires that the Permittee develop and implement an enforcement plan for carrying out the objectives of the SWMP.

14.1.1 General Requirements

No general requirements were identified in the Permit.

14.1.2 Specific Requirements

The permittee shall develop and implement (according to a schedule to be submitted in the SWMP Implementation Plan in Part III.D.) an enforcement plan for carrying out the objectives of the SWMP. The type of enforcement activities and resources devoted to those activities shall be included in the Annual Reporting (Part III.C.) and the SWMP Implementation Plan. A listing of all violations and enforcement actions shall be used to assess the effectiveness of the Enforcement Program in each Annual Review. Enforcement shall be maintained at its current level.

14.1.3 Permit Compliance

A written enforcement strategy for construction site storm water violations was prepared and submitted in the 2001 Annual Review. This strategy is followed by DOH WPD staff during inspection of construction sites and subsequent enforcement actions. Details regarding the type of enforcement activities and resources devoted to those activities and a listing of all violations and enforcement actions are included in Section 14.2 below.

14.2 ENFORCEMENT ACTIVITIES

14.2.1 Legal Authority

The District of Columbia Municipal Regulations, Chapter 5 – Water Quality and Pollution and the Soil Erosion and Sediment Control Amendment Act of 1994, included in Appendices 5-C and 14-A, respectively, provide the legal authority to enforce the erosion and sediment control provisions of the SWMP. Removal of illicit connections to the MS4 is enforced through the Plumbing Inspection Branch of the Department of

Consumer and Regulatory Affairs. Enforcement authority prohibiting the dumping of used motor vehicle fluids is provided in D.C. Laws 5-188 and 10-177.

14.2.2 Enforcement Activities and Resources

DOH WPD written enforcement strategy outlining how enforcement actions such as violation notices and notices of infractions and stop work orders are issued and adjudicated were previously submitted for the 2001 Annual Review. This strategy is the standard operation procedures for enforcement. DOH WPD has been allocated three environmental engineers and two environmental specialists to help accomplish these activities. Four additional staff were hired in December 2001, and the last began working in February 2002. These staff members are fully dedicated to storm water management issues related to implementation of the SWMP and the Permit.

14.2.3 List of Violations

A list of all violations and enforcement actions is included in the Office of Adjudication and Hearings Docket and Case-Tracking Sheet. The Case-Tracking Sheet is provided as Appendix 6-D of this report.

14.2.4 Assessment of Effectiveness

During FY 1001, DOH WPD reviewed 1,393 construction plans and approved 1,196 of them. A total of 5,298 on-site inspections were performed to enforce erosion and sediment control requirements. As a result of these inspections, 224 cases were referred for enforcement actions. This represents a significant increase (22%) from FY 2000, when 184 enforcement actions were taken. A complete list of violations and enforcement actions is included as Appendix 6-D of this report.

15.0 PUBLIC EDUCATION

15.1 REQUIREMENTS OF THE PERMIT

The Permit in Part III.B.12 requires that the District "develop a public education program."

15.1.1 General Requirements

The permittee shall develop a public education program. There are many components of a storm water public education program required by federal regulations at 40 CFR 122.26. The permittee will address all topics and related audiences including the following requirements:

- *A household hazardous waste educational and outreach program shall control illicit discharges to the MS-4 as required under Part III.B.10. This permit requires the Permittee to develop programs and materials during the term of the Permit to inform and educate the public on proper management and disposal of used oil, other automotive fluids, and household chemicals.*

- *A residential and commercial pesticide and fertilizer educational and outreach program shall address the use and application of pesticides and fertilizer under Part III.A.7. This program shall promote the proper use of pesticides, herbicides, and fertilizers through the development and dissemination of either new or existing educational materials.*

- *An industrial facility outreach program shall be developed as a means of monitoring and controlling pollutants in storm water from industrial facilities as required under Part III.A.2. An industrial facility outreach program should focus on informing industries within the District's watersheds about storm water permitting and pollution prevention plans. This program should also inform industries of the requirement that they develop structural and non-structural control systems, pursuant to regulations at 40 CFR 122.26(d)(2)(iv)(C) and (iv)(A)(5).*

- *A construction site operators education and outreach program shall provide construction site operators with technical guidance documents. The Permittee shall continue providing these types of outreach and educational materials.*

The permittee shall submit copies of all records and reports to the Martin Luther King, Jr. Public Library, to be kept in a single location for public review. This requirement shall extend at a minimum to all pertinent records and reports required to be filed with EPA.

15.1.2 Specific Requirements

The permittee shall develop public educational materials in cooperation and coordination with other agencies and organizations in the District with similar responsibilities and goals (i.e., WASA's CSO public education activities; local nonprofit organizations). Public education materials shall be developed in an easy-to-understand format and at a technical level appropriate for the target audience. Progress reports on public education shall be included in the Annual/Review Reports. An explanation shall be provided as to how this effort will reduce pollution loadings to meet the requirements of the Clean Water Act.

15.1.3 Permit Compliance

Public education activities have been integrated into existing and newly developed storm water management programs and expanded into new areas such as the WASA public web page. Public education efforts in the past year have included pamphlet distribution on pet waste, household hazardous waste, oil and grease in Hickey Run, and pesticides and herbicides. A video demonstrating proper maintenance of the sand filter water quality structure has also been developed and used in construction operator training.

15.2 PUBLIC EDUCATION ACTIVITIES

Public education activities conducted during the past year are described in detail in this section.

15.2.1 Public Web Site Development

On March 1, 2002, WASA launched an updated public web site for the agency. As part of the update, five pages of information regarding the MS4 program were created. In

addition to the default opening page titled, “Separate Storm Sewer System,” four pages were developed:

- **Overview** - Get a general overview of the Municipal Separate Storm Sewer System (MS4).
- **Municipal Separate Storm Sewer System (MS4) Permit** - Learn about current regulations governing MS4s and how DCWASA is responding.
- **What Can I Do?** - Learn what you can do to help local water quality.
- **Contact Information** - Find contact information and additional resources for CSS- and MS4-related issues.

The default welcome page for the MS4 pages can be found on the WASA web site at: http://www.dcwasa.com/education/ms4/default.cfm

The MS4 web pages will be updated to include current information on the implementation of Permit related activities, additional public education material on topics such as hazardous waste disposal, recognizing and reporting illicit discharges, public participation, and other topics related to the MS4.

15.2.2 Household Hazardous Waste Collection and Disposal

The existing program for the collection of motor vehicle fluids and household hazardous waste has been expanded and a permanent, fixed location for hazardous waste drop-off is being included in the refurbishment of the two hazardous waste transfer facilities operated by DPW.

During the past year, two hazardous waste collection days were held, where residents may bring hazardous wastes for proper disposal. The collection days were May 19 and October 13, 2001. The next hazardous waste collection day will be held on May 11, 2002 at Fort Reno.

During the May collection event, 60 55-gallon drums of waste flammables, oxidizer, pesticides, acids, bases, and motor oil were collected. Also collected were fluorescent bulbs, dry cell batteries, thermometers, and asbestos. The Care Environmental Corp. was subcontracted to perform the collection and packing of the waste for the District. A copy

of the list of materials collected at the May Household Hazardous Waste Collection Day are provided Appendix 15-A.

During the October collection event, 687 55-gallon drums of waste flammables, paints, oxidizer, pesticides, acids, bases, motor oil, and antifreeze were collected. Also collected were boxes of fluorescent bulbs, mercury thermometers, and dry cell car batteries. Again, the Care Environmental Corp. was subcontracted to perform collection and packing of the waste for the District. A copy of the list of materials collected during the October Household Hazardous Waste Collection Day is provided in Appendix 15-B.

DOH WPD also provides educational opportunities for residents of the District to increase awareness of the proper disposal methods for household hazardous wastes. This program has taken on two forms, first as a workshop for teachers using an information packet entitled "De-Tox Your Home, Alternatives to Toxic Household Products" (assembled by the Chesapeake Bay Foundation), and second, as a video entitled "River Connections," providing directions on how to properly dispose of motor oil and antifreeze. This video was distributed and shown at workshops and given to 20 DC public schools for showing.

15.2.3 Pesticides, Fertilizer, and Pet Wastes Program

Pesticides

District residents are educated on the proper application of pesticides through the Integrated Pest Management (IPM) Program. This program gives residents guidance on how to choose an appropriate pesticide, how to choose a pest control company, and what regulatory requirements there are regarding commercial companies applying pesticides. This pamphlet also informs residents that there is a water quality impact associated with the application of too much pesticide.

Fertilizer

Through DOH WPD's nutrient management program, the public is educated about the proper amount of fertilizer to use on a lawn. In addition to fertilizer use, this program addresses the proper way to mow, the use of mulches and the affects of applying to much mulch.

Pet Wastes

Currently there are laws in the District requiring pet owners to remove animal wastes. In 2000, a brochure outlining the requirements of the law was sent to 950 registered pet owners to inform them that runoff from animal waste is a source of nutrient pollution in the waters of the District.

Other

A Nonpoint Source video was shown at 23 teacher training seminars in the District during the past year. The video gave suggestions on proper lawn fertilization, household waste disposal, and the proper applications of pesticides and herbicides.

Copies of Public Education Literature distributed to residents are provided in Appendix 10-B.

15.2.4 Industrial Facility Program

DOH WPD performs outreach to industrial facilities through seminars and conferences for managers of industrial facilities. Through inspections performed by DOH personnel, managers of industrial facilities are made aware of the proper methods of storage of chemicals. Additionally, the managers are given a pamphlet on preventing discharges to Hickey Run. A copy of the pamphlet is provided in Appendix 15-C.

15.2.5 Construction Site Operators' Program

To meet the requirement of outreach to operators of construction sites, DOH WPD has begun to distribute a video demonstrating proper maintenance of the sand filter water quality structure, which is a commonly used as a BMP on construction sites. DOH WPD has also assisted the Chesapeake Bay Program in organizing a workshop on low impact development for construction site operators. In 2001, staff members at DOH WPD made presentations at meetings and trade shows, and published articles in trade journals outlining and reaffirming requirements for sediment control and storm water management, which are submitted by construction site operators for approval prior to beginning construction. A copy of the trade journal article is provided in Appendix 15-D.

15.2.6 Agency Cooperation Program

Multiple agencies of the District government have partnership arrangements with regional and local organizations. These partnerships help promote storm water pollution control issues.

Regional Organizations

District agencies are currently working with the Interstate Commission on the Potomac River Basin (ICPRB), the Metropolitan Washington Council of Governments (MWCOG), and the Anacostia Watershed Restoration Committee (AWRC).

District agencies and the ICPRB have identified and developed information on toxics problems, and drawn up plans with upstream agencies to reduce the levels of toxics in the rivers.

Together with the AWRC, DC agencies have improved water quality, wetlands, forest cover, and ecological integrity fish habitat in the Anacostia Watershed, and trash removal.

Local and Federal Government Agencies

The Environmental Protection Agency is providing technical and program support to the Nonpoint Source programs of the District.

Through the D.C. Urban Initiative, the U.S. Department of Agriculture Natural Resources Conservation Services (USDA NRCS) provides technical and monetary assistance to restore the stream bank of Watts Branch. USDA NRCS has provided public outreach at various environmental fairs and training courses on stormwater management, and runoff from commercial and residential activities.

The National Park Service has lands that border District waterways. The National Park Service has begun restoration activities at the Kingman Lake Wetland, Kenilworth Marsh, Anacostia Fringe Wetlands, and Lower Anacostia Park, and continues to work on the Fort DuPont BMP Construction site and the installation of BMPs at the parking lot for the Anacostia Park.

The U.S. Army Corps of Engineers is also involved in the restoration activities at the Kingman Lake Wetland, Kenilworth Marsh, Anacostia Fringe Wetlands, lower Anacostia Park Habitat Restoration, and debris removal from the Anacostia River.

The U.S. Geological Survey maintains gauging stations along Rock Creek and Watts Branch that provided needed data input the discharge monitoring program described in Section 16.0 of this report.

Universities

Universities in the District provide research and support services to the MS4 programs of the District government. These services include assessment of petroleum and hydrocarbons in ground water, ground water hydrology and wetlands, toxic organic compounds, educational videos and projects on nonpoint sources and pollution prevention. In addition, they provide interns for public educational and biological monitoring programs.

Howard University Department of Engineering is currently conducting a study of best management practices for DPW. The final study is scheduled for completion in Spring 2002. A draft of the report is discussed in detail in Section 4.2 of this report.

Nonprofit/Environmental Group Partnerships

District agencies have worked with the Anacostia River Business Coalition (ARBC), a group of 22 businesses that are adjacent to the Anacostia River. ARBC's mission is to prevent toxic discharges from reaching the Anacostia River. The coalition has conducted pollution prevention workshops and which have raised public awareness about trash, oil, fertilizer, pesticides, and prevention methods.

An interagency and community task force, the Watts Branch Task Force, addresses impairments to Watts Branch. They have coordinated restoration and clean-up efforts on Watts Branch, developed public outreach and education, improved communication between residents, and developed collaborative efforts.

The Pope Branch Citizens Group works to improve water quality along Pope Branch by controlling erosion through various tree, shrub, flower planting, and improvements to ground cover. This group has also been directed on how to report illegal dumping activities and arrange for bulk trash pickup, and has received support from the ARBC.

The Mayor's Environmental Council consists of public and private sector members who help guide the administration on specific environmental issues such as sustainable economic development, smart growth, transportation, environmental health and children, and reclamation, preservation and protection of the Anacostia River.

A discussion of the roles of non-governmental Agencies is included in the Nonpoint Source Plan, which is in Appendix 6-A.

15.2.7 Library Submittals

With the submittal of this Annual Report, the Permittee will establish a system to ensure that Permit records and documents are available for public review in a single location at the Martin Luther King, Jr. Public Library.

15.2.8 Meeting the Requirements of the Clean Water Act

DOH WPD has raised awareness of point and non-point pollution sources in the community and prevention methods through its outreach to educational and community groups. These educational efforts begin by teacher training days, community outreach, and various fairs and festivals in the District. A copy of photographs taken at a Teacher Training Day is provided in Appendix 15-E. This methodology exposes children to their effect on the surface runoff and storm water discharges at an early age. This effort has developed a pollution prevention mindset and is more cost effective than developing ways of mitigating runoff

16.0 MONITORING AND REPORTING REQUIREMENTS

16.1 REQUIREMENTS OF THE PERMIT

Part IV of the Permit describes monitoring and reporting requirements. The monitoring program consists of:

- Storm event discharge monitoring
- Dry weather monitoring
- Wet weather screening program

General and specific requirements of this section are detailed below.

16.1.1 General Requirements

The permittee shall develop and implement a wet-weather monitoring program for the Municipal Separate Storm Sewer System (MS4) to provide data necessary to assess and report the effectiveness and adequacy of control measures implemented under the Storm Water Management Program (SWMP); estimate annual cumulative pollutant loadings from the MS4; estimate and report the event mean concentrations and seasonal pollutants in discharges from major outfalls; identify and prioritize portions of the MS4 requiring additional controls; and identify water quality improvements or degradation. The sampling plan to be developed by the permittee shall be consistent with the monitoring requirements at 40 CFR 122.26 (d)(2)(iii).

The permittee is responsible for conducting any additional monitoring necessary to accurately characterize the quality and quantity of pollutants discharged from the municipal separate storm sewer system. Improvement in the quality of discharges from the MS4 will be assessed based on the monitoring information required by this Part of the permit, plus any additional monitoring conducted by the permittee.

16.1.2 Specific Requirements

Two specific requirements are listed in this section of the Permit for inclusion in this Annual Report:

- *Screening may be developed and/or modified based on experience gained during actual field screening activities and need not conform to the protocol*

at 40 CFR 122.26(d)(1)(iv)(D). A description of the protocol actually used shall be provided in the next Annual Review with a justification for its use. The procedures described in the November 4, 1998 SWMP shall be used as guidance.

- *The permittee shall immediately implement a program to locate and eliminate suspected sources of illicit connections and improper disposal identified during dry weather screening activities, and report the results of that implementation in each Annual Report.*

16.1.3 Permit Compliance

A detailed discussion of the monitoring results are presented in the Discharge Monitoring Report submitted under separate cover. This report describes the monitoring sites, sample collection, record keeping, monitoring results, and estimates of loadings that have occurred since April 2001.

16.2 MONITORING AND REPORTING REQUIREMENT ACTIVITIES

After approval by EPA of the nine alternative sampling locations on January 17, 2002, WQD authorized the initiation of the storm water discharge sampling program. Scheduled monitoring of MS4 outfalls is summarized in Table 16.1. A total of 18 sites were sampled during 2001, of which, six samples were collected for wet weather monitoring and 12 samples were collected for dry weather monitoring. Complete results of the sample analysis results for the past year are included in Appendix 16-A. The Discharge Monitoring Report submitted in April 2002 provides a detailed evaluation of the sample analysis results.

The sample analysis results reported in the Discharge Monitoring report will be utilized in the continued evaluation of the MS4 system to identify retrofits and modifications necessary to meet the requirements of the Clean Water Act and the requirements of this Permit.

17.0 HICKEY RUN TOTAL MAXIMUM DAILY LOAD

17.1 REQUIREMENTS OF THE PERMIT

The Permit in Part VI requires a waste load allocation of 11.9 lbs/day of oil and grease representing the load from the four MS4 outfalls to Hickey Run.

17.1.1 General Requirements

The following table shows the percent of the total load of the pollutants from point and nonpoint sources.

Source	Percent of Total Load	
	Existing Conditions	After the TMDL
Point Source (4 outfalls)	88.9%	44%
Nonpoint Source	11.1%	31%
Margin of Safety	0.0%	25%

The TMDL requires a wasteload allocation of 11.9 lbs/day of oil and grease representing the load from these four sewer outfalls. Achieving this allocation requires an 88.9% reduction of the oil and grease currently being discharged from the outfalls. The effluent limit is 11.9 lbs per day for the MS-4 discharge to Hickey Run.

17.1.2 Specific Requirements

Part IV.A. of this permit requires monitoring of six representative outfalls in the District's separate storm water system(MS4) three times a year. A similar monitoring frequency is applied to the monitoring of this limit to allow the District to sample these outfalls as they are sampling the other six. The Permittee shall conduct appropriate and representative monitoring to confirm compliance with this limit. Discharge Monitoring Reports shall be submitted to EPA and the D.C. Department of Health three times a year, pursuant to Part VIII.E.

The District shall determine the minimum elapsed time between samples taken during the year and report that decision in the first Annual Review. The sampling plan shall be completed and reported in the first Annual Review.

An explanation shall be provided for exceedances above the limit in an attachment to the Discharge Monitoring Report (DMR) submitted pursuant to Part VIII.E. The above effluent limitation for Hickey Run becomes effective and enforceable 3 years from the date of issuance of this permit (April 19, 2003).

17.1.3 Permit Compliance

By implementing the water quality monitoring program on Hickey Run, the District is in compliance with the permit conditions. A detailed discussion of the monitoring results are presented in the Discharge Monitoring Report submitted under separate cover. This report describes the monitoring sites, sample collection, record keeping, monitoring results, and estimates of loadings that have occurred since April 2001.

Additionally, as part of an overall management plan for Hickey Run, the District is evaluating potential BMPs to reduce the amount of oil and grease discharged into Hickey Run.

17.2 HICKEY RUN TMDL ACTIVITIES

Hickey Run is a very small tributary to the Anacostia River. Essentially, the headwaters of Hickey Run are part of the MS4 with outfalls that are very close to each other. Through these four outfalls, the storm sewer gives way to an open stream channel. The creek then flows through the National Arboretum for less than a mile before meeting the Anacostia River. Figure 17-1 illustrates the Hickey Run sewersheds and outfalls.

The stream has been historically plagued by illegal oil and grease dumping. Above the open stream, there are a number of transportation-related facilities in the watershed (gas stations, repair shops, etc.), many of which do not properly dispose of waste oil. Also, oil and grease flush into the storm sewer system during rainstorms.

While much of the oil and grease originates from nonpoint sources in the upper half of the Hickey Run watershed upstream from the four outfalls, these pollutants find their way

to the storm sewer system and are thus classified as point sources in the Hickey Run TMDL.

17.2.1 Monitoring

The District has initiated water quality monitoring of the Hickey Run discharge and the results of that monitoring for oil and grease as well as other parameters are discussed in the April 2002 Discharge Monitoring Report submit to EPA by the District.

17.2.2 Evaluation of BMPs

The District has begun the evaluation of BMPs that will reduce pollutants including oil and grease discharged from the MS4 to Hickey Run. In 2001, The Center for Watershed Protection conducted an evaluation of BMPs that could be potentially installed in Hickey Run near New York Avenue. The CDS technology was recommended by The Center for Watershed Protection with supplemental sorbents to treat oil and grease. It is estimated that this device would help curtail oil and grease discharge at lower rainfall intensities.

Additionally, a Hickey Run Management Plan that outlines both structural and non-structural BMPs and education programs is being developed. This document will be used as the basis for complying with the oil and grease TMDL.

17.2.3 Cooperative Agreement With National Arboretum

The District is in discussions with the National Arboretum, which controls the land downstream of the outfalls, on the possibility of coordinating efforts to reduce floatable debris in the National Arboretum as a result of storm water runoff and at the same time install a BMP for oil and grease.

17.2.4 Public Education

DOH developed an informative pamphlet titled, “Protecting Hickey Run – Where Oil and Water Don’t Mix”. The pamphlet was distributed to residents and businesses in the Hickey Run watershed. A copy of the pamphlet is provided in Appendix 15-C.

17.2.5 Additional Information

One effort to positively impact the health of the Hickey Run watershed by the Department of Health, Office of Enforcement, Compliance, and Environmental Justice (OECEJ), entails a survey of automotive service shops. The survey compiled a listing of all the automotive service shops in the area including: (1) company name, (2) address, (3) contact information, (4) and types of services provided. The information will be used to improve the compliance of automotive repair shops with environmental rules and regulations that impact the health of the Hickey Run watershed.

Automotive service shops have been selected because many use chemicals, such as oil and grease, that may greatly impact the watershed. Moreover, Ward 5, where Hickey Run is located, contains more industrially zoned areas than any other ward in the city. The survey was the first step toward identifying the location and nature of business. In December 2001 surveyors from OECEJ and EPA canvassed Ward 5. Of the 108 automotive service shops identified in Ward 5, 57 were in the Hickey Run watershed. The survey will be followed by:

- characterization of facilities
- industry profile and predominant pollution types
- baseline inspections
- design and implementation of public education programs
- compliance

There are several other phases that will be implemented in moving toward a healthier Hickey Run watershed. The OECEJ is in the process of developing Inspector Checklists and a Voluntary Compliance program in conjunction with the various Environmental Health Administration (EHA) environmental programs to address water, air, and soil concerns. Environmental Business Performance Indicators (EBPIs) will be developed to serve as indicators for understanding both compliance status and overall environmental performance of facilities. The culminating event will involve the statistical analysis of the data received, as well as an overall analysis of the project.